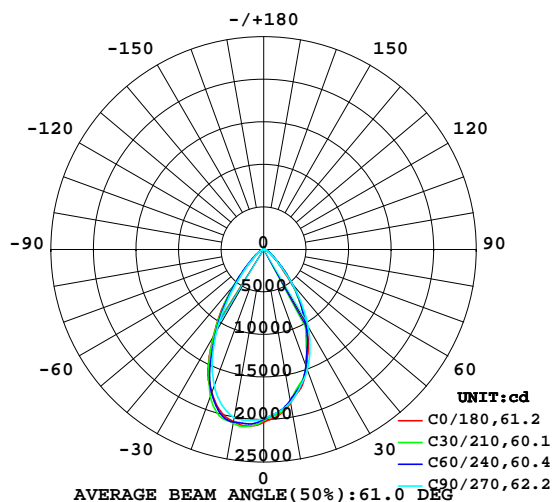


LUMINAIRE PHOTOMETRIC TEST REPORT

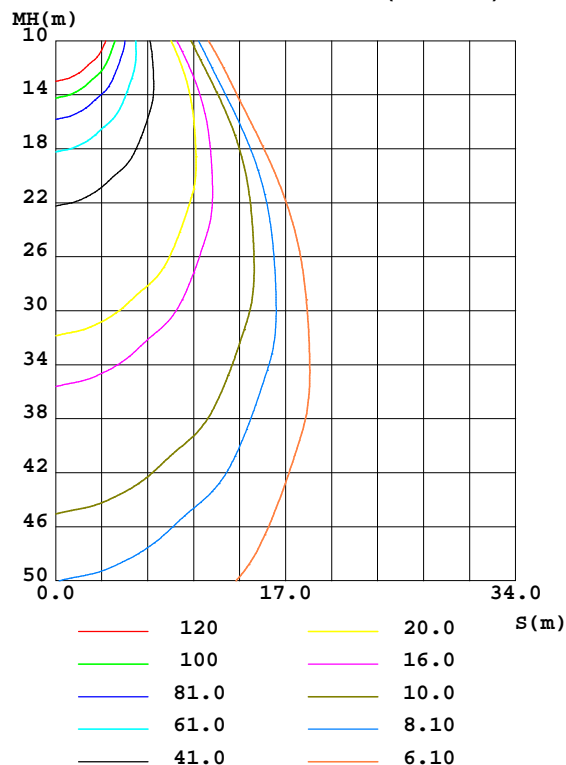
Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 150.51 lm/W			
MODEL	NTB-150C_A60	Imax(cd)	20967	S/MH(C0/180)	0.97
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	0.94
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	22545	η UP,DN(C0-180)	0.8,48.5
NOMINAL FLUX(lm)	22544.7	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.8,49.9
LAMPS INSIDE	1	η up(%)	1.6	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	98.4	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1829	1814	1822	1942	2054	2074	2006	1939	0- 10	1878	1878	8.33,8.33
20	1469	1465	1504	1718	1785	1821	1703	1589	10- 20	5063	6941	30.8,30.8
30	989.7	964.8	1051	1135	1192	1132	1105	1024	20- 30	6210	13151	58.3,58.3
40	478.6	531.3	509.9	571.1	513.4	540.7	466.7	504.1	30- 40	4862	18013	79.9,79.9
50	177.5	206.7	186.6	202.6	161.7	188.5	161.4	181.6	40- 50	2424	20437	90.6,90.6
60	81.63	85.03	76.74	77.63	73.11	71.62	65.45	72.93	50- 60	1046	21482	95.3,95.3
70	37.07	36.79	31.72	31.73	31.24	26.95	22.88	28.31	60- 70	498.9	21981	97.5,97.5
80	9.998	9.335	7.093	7.108	7.317	4.305	3.218	5.095	70- 80	182.3	22164	98.3,98.3
90	0.8827	0.9189	0.8664	0.8434	0.7591	0.7633	0.7251	0.7114	80- 90	26.22	22190	98.4,98.4
100	1.664	1.606	1.533	1.526	1.363	1.365	1.338	1.344	90-100	11.74	22202	98.5,98.5
110	3.168	3.063	2.937	2.828	2.551	2.509	2.545	2.620	100-110	21.70	22223	98.6,98.6
120	5.292	5.169	4.970	4.722	4.339	4.237	4.339	4.527	110-120	36.38	22260	98.7,98.7
130	7.727	7.583	7.321	6.974	6.602	6.410	6.565	6.802	120-130	51.89	22312	99,99
140	10.11	9.887	9.633	9.275	9.063	8.801	8.932	9.122	130-140	62.90	22374	99.2,99.2
150	12.03	11.68	11.48	11.23	11.34	10.98	11.02	11.04	140-150	64.83	22439	99.5,99.5
160	13.13	12.70	12.53	12.53	12.94	12.56	12.44	12.28	150-160	55.38	22495	99.8,99.8
170	13.81	13.45	13.39	13.49	13.93	13.65	13.46	13.25	160-170	36.90	22532	99.9,99.9
180	14.29	14.20	14.17	14.00	14.36	14.15	14.20	13.98	170-180	13.15	22545	100,100
DEG	LUMINOUS INTENSITY:≠10cd									UNIT:lm		

Conical surface Flux(90deg): 19487 lm

%lum = 86.4%

%lamp = 86.4%

Conical surface Flux(120deg): 21482 lm

%lum = 95.3%

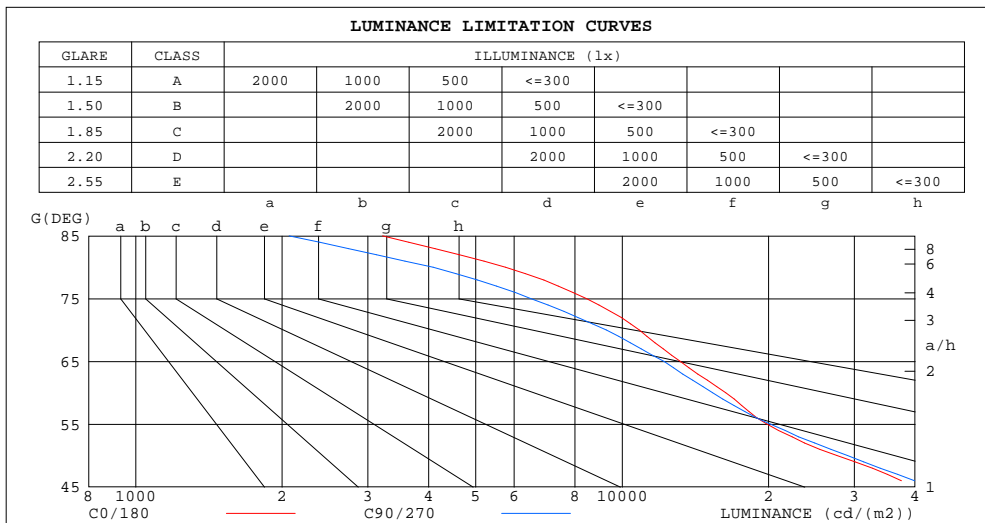
%lamp = 95.3%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

LUMINANCE LIMITATION CURVES

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	3215	2068
80	5758	4085
75	8451	6488
70	10838	9273
65	13155	12180
60	16325	15348
55	19853	20144
50	27607	29025
45	40114	43463

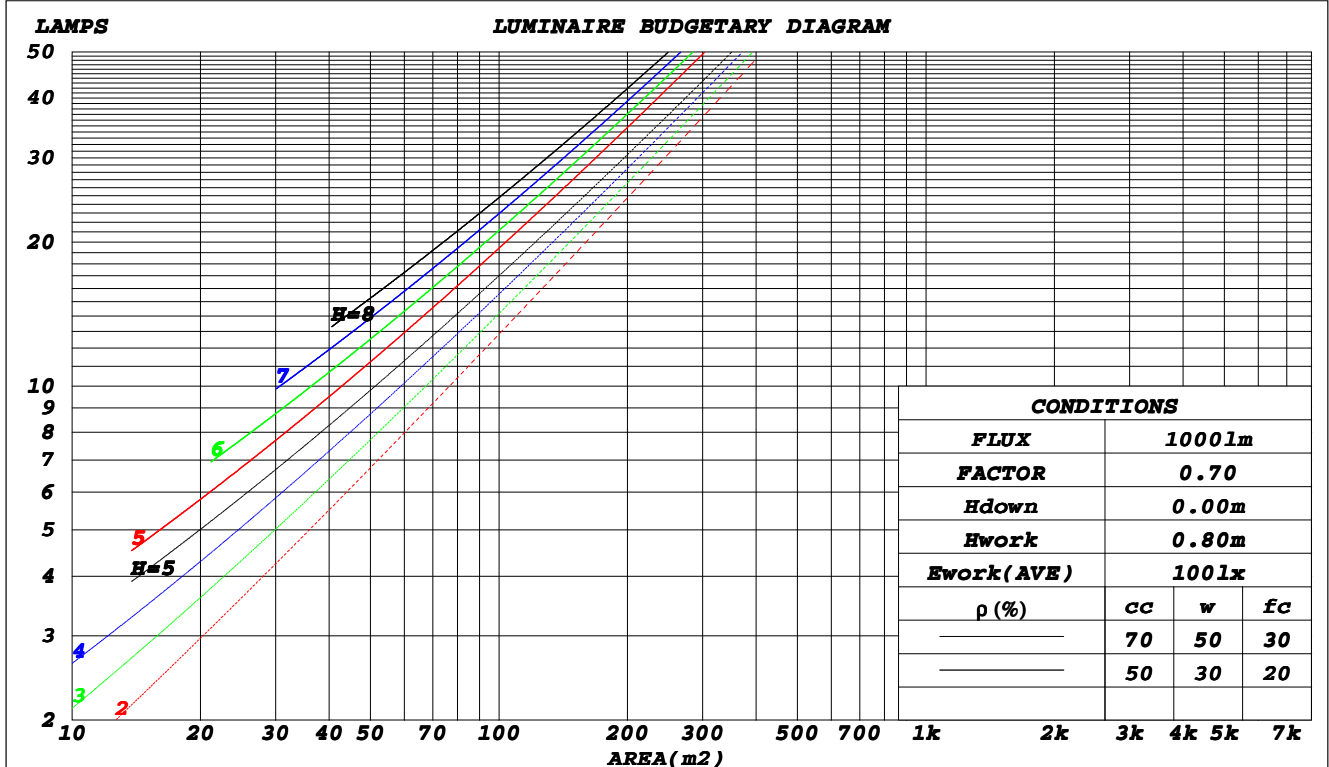
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.98
1.0	1.09	1.06	1.04	1.07	1.04	1.02	1.02	1.00	.99	.98	.97	.95	.95	.93	.92	.90
2.0	1.00	.96	.92	.98	.94	.91	.95	.91	.88	.91	.89	.86	.88	.86	.84	.82
3.0	.92	.87	.82	.91	.85	.81	.88	.83	.80	.85	.81	.78	.83	.79	.77	.75
4.0	.85	.79	.74	.84	.78	.74	.81	.76	.73	.79	.75	.71	.77	.73	.70	.69
5.0	.79	.72	.67	.78	.72	.67	.76	.70	.66	.74	.69	.66	.72	.68	.65	.63
6.0	.73	.67	.62	.72	.66	.62	.71	.65	.61	.69	.64	.60	.67	.63	.60	.58
7.0	.68	.62	.57	.67	.61	.57	.66	.60	.56	.65	.60	.56	.63	.59	.55	.54
8.0	.64	.57	.53	.63	.57	.53	.62	.56	.52	.61	.56	.52	.60	.55	.52	.50
9.0	.60	.53	.49	.59	.53	.49	.58	.52	.49	.57	.52	.48	.56	.51	.48	.47
10.0	.56	.50	.46	.56	.50	.46	.55	.49	.45	.54	.49	.45	.53	.48	.45	.44



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

WEC AND CCEC

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.202	.115	.036	.194	.111	.035	.181	.104	.033	.168	.097	.031	.157	.091	.029		
2.0	.194	.107	.033	.188	.104	.032	.177	.098	.031	.166	.093	.029	.156	.088	.028		
3.0	.185	.099	.030	.180	.096	.029	.170	.092	.028	.160	.088	.027	.152	.084	.026		
4.0	.176	.091	.027	.171	.090	.026	.162	.086	.026	.154	.083	.025	.146	.080	.024		
5.0	.167	.085	.025	.163	.083	.024	.155	.081	.024	.148	.078	.023	.141	.075	.023		
6.0	.158	.079	.023	.155	.078	.022	.148	.076	.022	.141	.073	.022	.135	.071	.021		
7.0	.151	.074	.021	.147	.073	.021	.141	.071	.021	.135	.069	.020	.130	.067	.020		
8.0	.143	.070	.020	.140	.069	.020	.135	.067	.019	.130	.066	.019	.125	.064	.019		
9.0	.137	.066	.018	.134	.065	.018	.129	.064	.018	.124	.062	.018	.120	.061	.018		
10.0	.130	.063	.017	.128	.062	.017	.123	.060	.017	.119	.059	.017	.115	.058	.017		

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.202	.202	.202	.173	.173	.173	.118	.118	.118	.068	.068	.068	.022	.022	.022	
1.0	.185	.169	.155	.158	.145	.133	.108	.100	.092	.062	.058	.054	.020	.019	.017	
2.0	.171	.145	.122	.147	.124	.105	.101	.086	.074	.058	.050	.043	.019	.016	.014	
3.0	.160	.126	.099	.138	.109	.085	.094	.075	.060	.055	.044	.035	.018	.014	.012	
4.0	.151	.112	.082	.130	.096	.071	.089	.067	.050	.052	.039	.030	.017	.013	.010	
5.0	.143	.100	.069	.123	.087	.060	.085	.061	.042	.049	.036	.025	.016	.012	.008	
6.0	.136	.091	.059	.117	.079	.052	.081	.055	.037	.047	.033	.022	.015	.011	.007	
7.0	.130	.084	.052	.111	.073	.045	.077	.051	.032	.045	.030	.019	.014	.010	.006	
8.0	.124	.078	.047	.107	.068	.041	.074	.048	.029	.043	.028	.017	.014	.009	.006	
9.0	.119	.073	.042	.102	.063	.037	.071	.045	.026	.041	.026	.016	.013	.009	.005	
10.0	.114	.069	.038	.098	.060	.034	.068	.042	.024	.040	.025	.014	.013	.008	.005	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

UGR(Unified Glare Rating) Table

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm										
NAME: NTB-150C_A60					TYPE:LED			WEIGHT:		
SPEC.:150C_A60					DIM.:			SERIAL No.:		
MFR.: ICEPIPE					SUR.:			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	21.8	22.8	22.0	23.0	23.2	22.0	23.0	22.2	23.2	23.4
3H	22.0	23.0	22.3	23.2	23.4	22.1	23.1	22.4	23.3	23.5
4H	22.0	23.0	22.3	23.2	23.5	22.1	23.0	22.4	23.3	23.5
6H	22.0	22.9	22.4	23.2	23.5	22.0	22.9	22.4	23.2	23.5
8H	22.0	22.8	22.3	23.1	23.4	22.0	22.8	22.3	23.1	23.4
12H	22.0	22.8	22.3	23.1	23.4	22.0	22.7	22.3	23.1	23.4
4H 2H	21.8	22.7	22.1	23.0	23.2	22.0	22.9	22.3	23.1	23.4
3H	22.1	22.9	22.5	23.2	23.5	22.2	23.0	22.5	23.3	23.6
4H	22.2	22.9	22.6	23.3	23.6	22.2	22.9	22.6	23.3	23.6
6H	22.3	22.9	22.7	23.3	23.6	22.2	22.8	22.6	23.2	23.6
8H	22.2	22.8	22.7	23.2	23.6	22.1	22.7	22.6	23.1	23.5
12H	22.2	22.7	22.6	23.1	23.6	22.1	22.6	22.5	23.0	23.5
8H 4H	22.2	22.7	22.6	23.1	23.5	22.2	22.7	22.6	23.1	23.5
6H	22.2	22.7	22.7	23.1	23.6	22.1	22.6	22.6	23.1	23.5
8H	22.2	22.7	22.7	23.1	23.6	22.1	22.5	22.6	23.0	23.5
12H	22.2	22.6	22.7	23.0	23.5	22.1	22.4	22.6	22.9	23.4
12H 4H	22.1	22.7	22.6	23.1	23.5	22.1	22.6	22.6	23.1	23.5
6H	22.2	22.6	22.7	23.1	23.5	22.1	22.5	22.6	23.0	23.5
8H	22.2	22.6	22.7	23.0	23.5	22.1	22.4	22.6	22.9	23.4
Variations with the observer position at spacings:										
S = 1.0H	+ 1.4 / - 2.4					+ 1.5 / - 2.7				
1.5H	+ 2.3 / - 1.8					+ 2.4 / - 2.0				
2.0H	+ 2.4 / - 1.6					+ 2.9 / - 2.1				

CIE Pub.117 Corrected 22545 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.8)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

UTILIZATION FACTORS TABLE

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

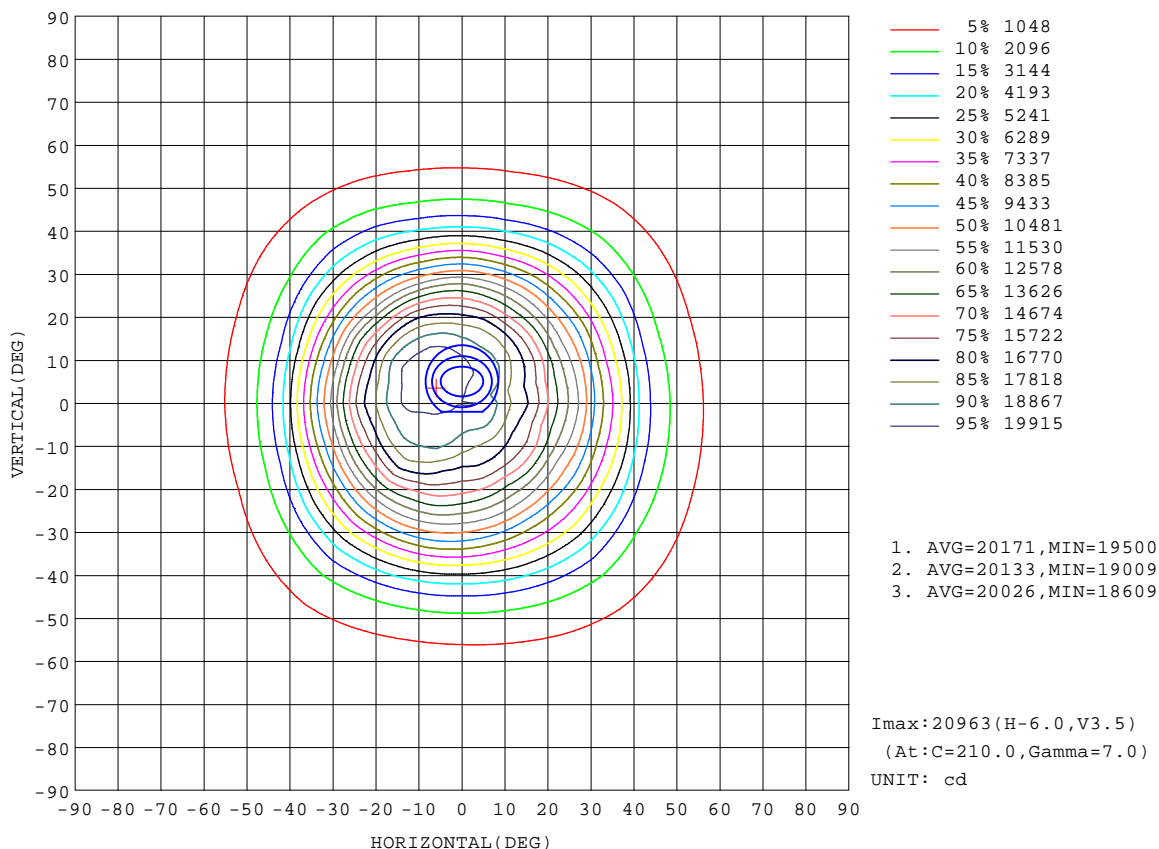
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	79	71	66	78	71	66	77	70	66	62
0.80	87	80	75	87	80	75	85	79	75	70
1.00	93	86	82	92	86	81	90	86	81	76
1.25	98	92	87	97	91	87	95	90	86	81
1.50	101	96	91	100	95	91	97	93	90	84
2.00	105	100	96	104	99	95	101	97	94	88
2.50	107	103	99	106	101	98	102	99	96	89
3.00	109	105	102	107	104	101	104	101	98	91
4.00	112	108	106	110	107	104	106	103	101	93
5.00	113	110	108	111	108	106	107	105	103	95
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

ISOCANDELA DIAGRAM

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

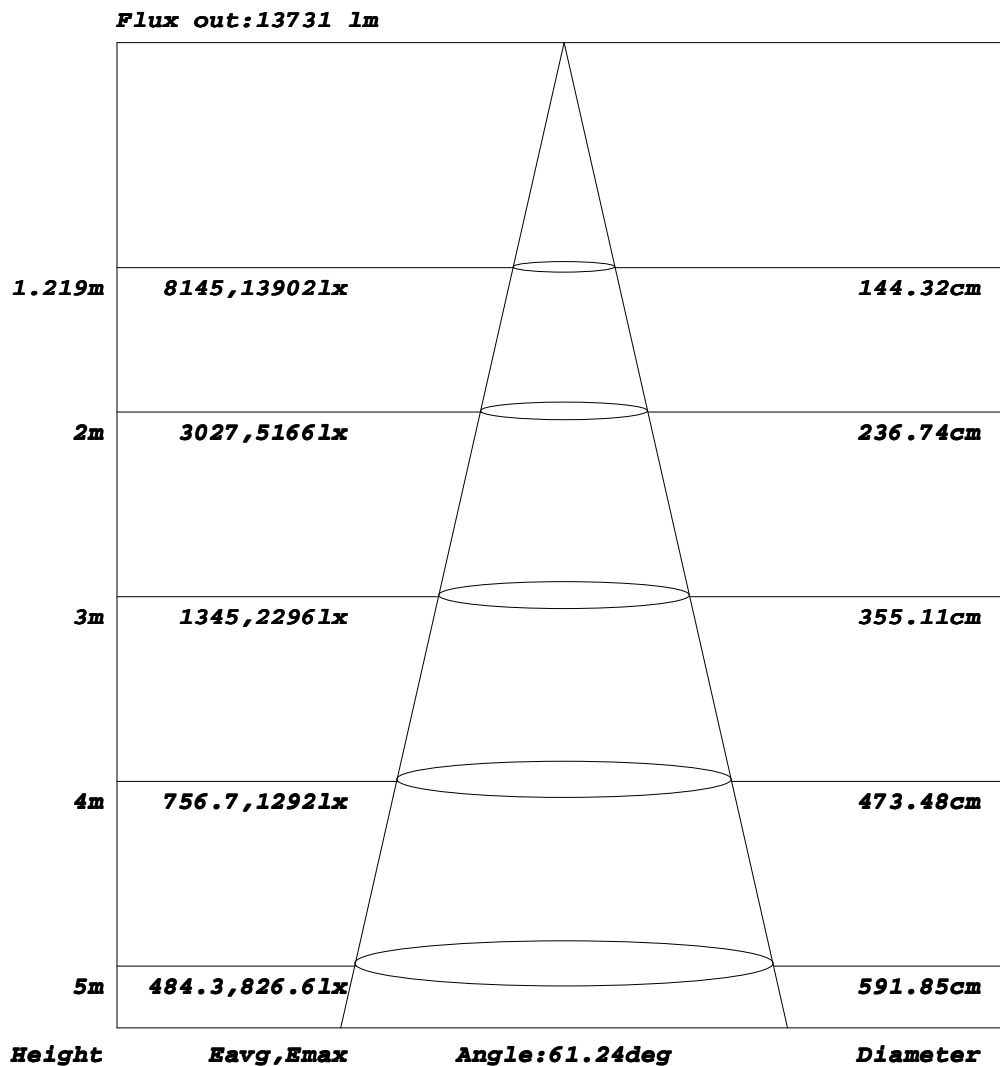


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

AAI Figure

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



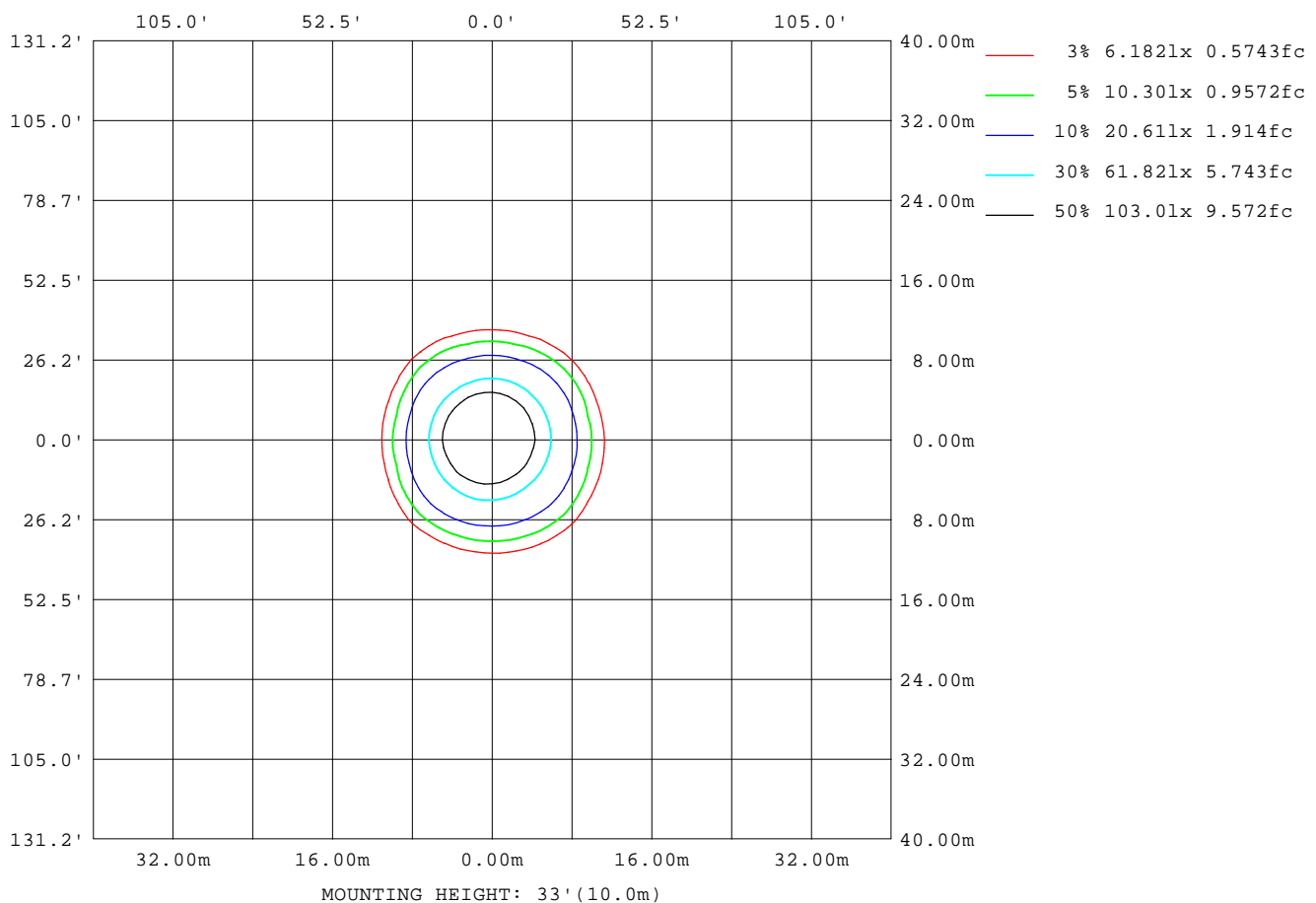
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: KAR
Test Date: 22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity: 65.0%
Test Distance: 8.100m [K=1.0000]
Remarks: NTB-150C_A60

ISOLUX DIAGRAM

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

LED Avg.L Report

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

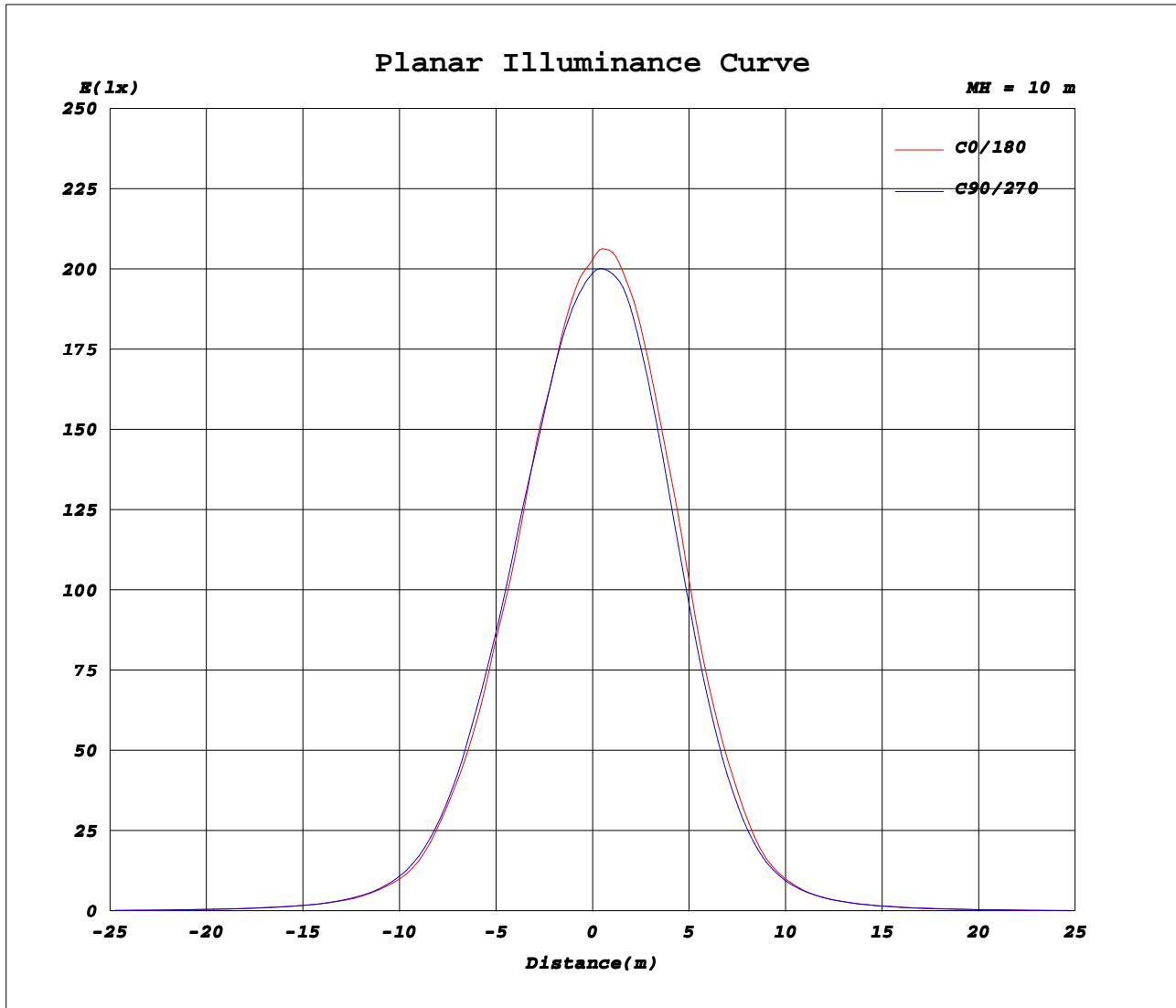
AvgL	cd/m2
L_0~180(65)av	12323
L_0~180(75)av	7633
L_0~180(85)av	2594
L_90~270(65)av	10946
L_90~270(75)av	5290
L_90~270(85)av	1459
L_45(65)av	11916
L_45(75)av	6359
L_45(85)av	1760

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: KAR
Test Date: 22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity: 65.0%
Test Distance: 8.100m [K=1.0000]
Remarks: NTB-150C_A60

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm																		
NAME: NTB-150C_A60									TYPE:LED					WEIGHT:				
SPEC.:150C_A60									DIM.:					SERIAL No.:				
MFR.: ICEPIPE									SUR.:					Shielding Angle:				

Table--1

UNIT: #10cd

C(DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	2030	2021	2010	2005	1997	1993	1987	1985	1983	1980	1977	1972	2030	2021	2010	2005	1997	1993	1987
5	1961	1952	1944	1935	1922	1917	1922	1936	1948	1966	1986	2008	2083	2090	2086	2074	2059	2039	2015
10	1829	1817	1816	1814	1799	1798	1822	1877	1914	1942	1962	1977	2054	2063	2074	2074	2059	2041	2006
15	1689	1647	1641	1652	1666	1675	1668	1722	1808	1864	1904	1917	1966	1975	2021	2005	1990	1951	1896
20	1469	1424	1458	1465	1453	1487	1504	1556	1619	1718	1727	1737	1785	1784	1836	1821	1795	1744	1703
25	1249	1217	1187	1205	1222	1256	1285	1341	1369	1440	1450	1487	1551	1532	1533	1502	1491	1461	1433
30	990	974	974	965	977	1017	1051	1087	1117	1135	1142	1151	1192	1170	1182	1132	1121	1104	1105
35	739	727	732	741	745	753	775	803	822	844	830	831	859	842	836	831	808	770	766
40	479	493	510	531	522	514	510	529	550	571	553	517	513	512	548	541	518	477	467
45	284	288	316	340	329	316	307	315	330	349	323	279	283	277	305	326	313	277	268
50	177	185	188	207	201	191	187	187	193	203	179	162	162	162	173	189	182	165	161
55	114	116	123	129	127	120	116	114	117	121	111	102	106	105	111	114	111	104	102
60	81.6	82.2	83.3	85.0	82.6	79.4	76.7	75.8	75.5	77.6	72.5	70.1	73.1	72.8	73.2	71.6	70.7	66.4	65.5
65	55.6	57.5	57.6	57.1	54.8	52.6	51.5	50.3	50.4	50.8	49.6	47.9	48.6	47.8	48.2	46.0	44.4	41.1	41.0
70	37.1	37.6	38.6	36.8	34.7	32.7	31.7	31.2	31.3	31.7	31.3	30.6	31.2	30.1	29.5	26.9	25.2	22.9	22.9
75	21.9	22.9	22.2	21.1	19.1	17.8	16.8	16.7	16.7	17.3	17.6	17.9	17.6	17.4	15.1	13.1	11.5	10.5	10.6
80	10.00	11.2	10.3	9.34	8.09	7.52	7.09	6.92	6.88	7.11	7.48	7.69	7.32	6.92	5.57	4.31	3.58	3.16	3.22
85	2.80	3.26	2.89	2.54	2.14	1.97	1.80	1.75	1.72	1.76	1.81	1.90	1.72	1.47	1.09	0.85	0.76	0.73	0.74
90	0.88	0.91	0.92	0.92	0.91	0.89	0.87	0.85	0.84	0.84	0.84	0.84	0.76	0.76	0.77	0.76	0.75	0.74	0.73
95	1.19	1.17	1.17	1.15	1.14	1.11	1.10	1.09	1.10	1.11	1.12	1.12	0.99	1.00	1.00	1.00	0.99	0.98	0.96
100	1.66	1.65	1.63	1.61	1.58	1.55	1.53	1.52	1.51	1.53	1.54	1.55	1.36	1.37	1.36	1.37	1.35	1.35	1.34
105	2.32	2.30	2.27	2.24	2.21	2.17	2.15	2.11	2.10	2.10	2.11	2.12	1.88	1.87	1.86	1.86	1.86	1.86	1.86
110	3.17	3.14	3.11	3.06	3.03	2.98	2.94	2.88	2.85	2.83	2.84	2.83	2.55	2.53	2.51	2.51	2.51	2.53	2.55
115	4.17	4.14	4.10	4.06	4.01	3.95	3.89	3.81	3.75	3.72	3.70	3.69	3.37	3.34	3.31	3.31	3.31	3.34	3.37
120	5.29	5.27	5.22	5.17	5.11	5.05	4.97	4.87	4.78	4.72	4.70	4.67	4.34	4.28	4.25	4.24	4.25	4.29	4.34
125	6.50	6.47	6.42	6.36	6.30	6.22	6.13	6.01	5.90	5.82	5.78	5.75	5.43	5.35	5.30	5.28	5.29	5.34	5.41
130	7.73	7.70	7.64	7.58	7.51	7.42	7.32	7.19	7.06	6.97	6.93	6.89	6.60	6.50	6.44	6.41	6.43	6.49	6.56
135	8.95	8.92	8.84	8.78	8.70	8.61	8.50	8.36	8.24	8.14	8.09	8.07	7.83	7.71	7.64	7.60	7.62	7.67	7.75
140	10.1	10.1	9.96	9.89	9.81	9.74	9.63	9.50	9.36	9.28	9.23	9.22	9.06	8.93	8.85	8.80	8.82	8.86	8.93
145	11.2	11.1	10.9	10.9	10.8	10.7	10.6	10.5	10.4	10.3	10.3	10.3	10.3	10.1	10.0	9.95	9.95	9.99	10.0
150	12.0	12.0	11.8	11.7	11.6	11.6	11.5	11.4	11.3	11.2	11.2	11.3	11.3	11.2	11.1	11.0	11.0	11.0	11.0
155	12.7	12.6	12.4	12.3	12.2	12.1	12.1	12.0	12.0	12.0	12.0	12.1	12.2	12.1	12.0	11.8	11.8	11.8	11.8
160	13.1	13.1	12.8	12.7	12.6	12.6	12.5	12.5	12.5	12.5	12.6	12.7	12.9	12.8	12.7	12.6	12.5	12.5	12.4
165	13.5	13.4	13.2	13.1	12.9	12.9	12.9	13.0	13.0	13.0	13.1	13.2	13.5	13.4	13.3	13.2	13.1	13.0	12.9
170	13.8	13.8	13.6	13.5	13.4	13.4	13.4	13.4	13.5	13.5	13.5	13.6	13.9	13.8	13.8	13.7	13.6	13.5	13.5
175	14.1	14.1	13.9	13.9	13.8	13.9	13.9	13.9	13.9	13.8	13.8	13.8	14.2	14.1	14.1	14.0	14.0	14.0	13.9
180	14.3	14.3	14.2	14.2	14.1	14.2	14.2	14.2	14.1	14.0	13.9	13.9	14.4	14.2	14.2	14.2	14.2	14.2	14.2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.4V I:0.6944A P:149.8W PF:0.9834 Lamp Flux:22544.7x1 lm		
NAME: NTB-150C_A60	TYPE:LED	WEIGHT:
SPEC.:150C_A60	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

Table--2

UNIT: #10cd

C(DEC) γ (DEC)	285	300	315	330	345														
0	1985	1983	1980	1977	1972														
5	1994	1978	1963	1940	1915														
10	1973	1966	1939	1880	1812														
15	1864	1841	1799	1729	1675														
20	1682	1626	1589	1542	1468														
25	1383	1336	1305	1255	1245														
30	1078	1058	1024	1013	997														
35	747	755	749	744	723														
40	465	490	504	498	478														
45	268	289	304	302	275														
50	161	172	182	175	171														
55	102	108	113	111	109														
60	65.9	69.0	72.9	74.3	75.4														
65	41.2	44.7	47.5	50.1	52.3														
70	23.1	25.9	28.3	31.6	34.1														
75	10.9	12.2	14.3	17.4	20.0														
80	3.34	4.00	5.09	7.06	9.00														
85	0.74	0.80	0.99	1.54	2.31														
90	0.72	0.72	0.71	0.70	0.68														
95	0.96	0.96	0.96	0.93	0.92														
100	1.35	1.35	1.34	1.32	1.30														
105	1.88	1.89	1.89	1.87	1.86														
110	2.58	2.60	2.62	2.60	2.60														
115	3.43	3.47	3.50	3.50	3.50														
120	4.42	4.48	4.53	4.54	4.56														
125	5.50	5.58	5.63	5.66	5.70														
130	6.66	6.73	6.80	6.84	6.89														
135	7.85	7.92	7.98	8.02	8.08														
140	9.01	9.07	9.12	9.16	9.23														
145	10.1	10.1	10.2	10.2	10.3														
150	11.0	11.1	11.0	11.1	11.2														
155	11.8	11.8	11.7	11.8	11.9														
160	12.4	12.3	12.3	12.3	12.4														
165	12.9	12.8	12.8	12.8	12.9														
170	13.4	13.3	13.3	13.3	13.3														
175	13.8	13.8	13.7	13.7	13.7														
180	14.1	14.1	14.0	14.0	13.9														

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks: NTB-150C_A60

Photometric Data Table [cd]

G/C	0.0	15.0	30.0	45.0	60.0	75.0	90.0	105.0	120.0	135.0
0.0	20301	20208	20100	20047	19965	19925	19875	19851	19826	19796
3.0	19939	19793	19661	19564	19489	19474	19496	19589	19689	19826
6.0	19396	19319	19285	19207	19052	18981	19064	19244	19380	19570
9.0	18631	18558	18535	18481	18311	18246	18477	18915	19200	19470
12.0	17630	17368	17326	17425	17411	17495	17648	18314	18902	19202
15.0	16886	16474	16410	16520	16656	16750	16680	17219	18082	18640
18.0	15672	15188	15517	15530	15518	15751	15752	16175	17060	17928
21.0	14215	13815	14038	14150	14013	14383	14659	15198	15701	16720
24.0	12885	12591	12382	12571	12641	12982	13318	13891	14189	15035
27.0	11592	11295	10964	11076	11327	11685	11939	12389	12709	13142
30.0	9897	9743	9744	9648	9768	10173	10515	10867	11174	11354
33.0	8349	8179	8297	8224	8329	8566	8897	9207	9418	9590
36.0	6902	6832	6839	7019	7012	7039	7185	7453	7638	7864
39.0	5325	5443	5508	5752	5661	5601	5589	5806	6011	6225
42.0	3810	3967	4322	4483	4380	4252	4178	4324	4548	4744
45.0	2837	2880	3161	3403	3294	3159	3073	3154	3304	3485
48.0	2188	2224	2297	2523	2449	2328	2272	2291	2386	2523
51.0	1605	1667	1717	1867	1823	1730	1690	1689	1735	1818
54.0	1232	1259	1341	1409	1385	1315	1272	1258	1294	1337
57.0	993.5	998.1	1045	1090	1065	1012	974.1	960.6	982.5	1010
60.0	816.3	822.1	832.6	850.3	826.0	793.6	767.4	758.3	755.4	776.3
63.0	650.0	668.9	673.4	647.7	622.7	605.0	594.0	594.0	590.8	600.7
66.0	513.8	530.7	533.3	523.8	503.1	483.3	469.0	459.4	463.5	466.0
69.0	403.0	411.2	420.1	403.9	383.9	362.1	352.8	345.4	348.6	351.3
72.0	307.7	312.2	316.6	301.0	280.7	261.7	250.6	247.6	249.9	256.5
75.0	218.7	229.5	222.0	210.8	191.4	177.6	167.9	166.6	167.2	173.4
78.0	143.5	156.4	146.3	135.7	118.5	111.1	104.9	103.0	102.3	106.6
81.0	81.31	91.70	84.46	75.18	64.76	60.31	55.96	54.83	54.39	56.67
84.0	38.06	43.96	39.06	34.59	29.00	26.90	24.98	23.95	23.45	24.22
87.0	14.48	17.03	15.19	13.46	11.75	10.94	10.35	10.13	9.893	10.03
90.0	8.827	9.055	9.223	9.189	9.064	8.891	8.664	8.516	8.438	8.434
93.0	10.45	10.31	10.30	10.18	10.06	9.821	9.702	9.614	9.708	9.806
96.0	12.71	12.53	12.48	12.29	12.15	11.88	11.73	11.60	11.69	11.78
99.0	15.54	15.39	15.21	15.03	14.80	14.53	14.33	14.18	14.21	14.31
102.0	19.06	18.86	18.64	18.34	18.12	17.80	17.58	17.35	17.30	17.31
105.0	23.24	22.96	22.73	22.36	22.10	21.72	21.47	21.12	21.01	20.97
108.0	28.09	27.81	27.51	27.09	26.78	26.34	26.03	25.54	25.31	25.17
111.0	33.53	33.27	32.89	32.51	32.09	31.60	31.17	30.53	30.21	29.95
114.0	39.54	39.27	38.88	38.45	38.01	37.44	36.87	36.13	35.66	35.28
117.0	46.06	45.77	45.39	44.88	44.40	43.73	43.08	42.18	41.52	41.07
120.0	52.92	52.66	52.23	51.69	51.14	50.46	49.70	48.67	47.84	47.22
123.0	60.08	59.86	59.35	58.79	58.19	57.44	56.59	55.44	54.47	53.72
126.0	67.39	67.19	66.63	66.06	65.40	64.59	63.70	62.43	61.32	60.48
129.0	74.81	74.59	74.01	73.41	72.69	71.83	70.81	69.51	68.28	67.40
132.0	82.18	81.96	81.27	80.66	79.89	79.01	77.97	76.59	75.33	74.41
135.0	89.46	89.17	88.42	87.76	86.98	86.13	85.03	83.62	82.36	81.42
138.0	96.54	96.20	95.23	94.58	93.82	92.97	91.91	90.53	89.20	88.29
141.0	103.3	102.8	101.7	101.0	100.2	99.51	98.44	97.15	95.79	94.92
144.0	109.6	109.0	107.6	106.9	106.1	105.5	104.5	103.3	102.0	101.2
147.0	115.3	114.6	113.0	112.2	111.4	110.9	110.0	108.9	107.7	107.0
150.0	120.3	119.5	117.6	116.8	116.0	115.6	114.8	113.9	112.7	112.3
153.0	124.5	123.6	121.5	120.5	119.7	119.4	118.7	118.0	117.1	116.9
156.0	127.8	127.0	124.7	123.6	122.7	122.5	121.9	121.4	120.8	120.8
159.0	130.5	129.8	127.4	126.2	125.0	124.9	124.5	124.3	124.0	124.2
162.0	132.9	132.2	129.8	128.5	127.2	126.9	126.7	126.9	127.0	127.4
165.0	135.0	134.4	131.9	130.6	129.3	129.3	129.2	129.7	129.9	130.4
168.0	136.8	136.4	134.0	132.9	131.7	131.9	132.0	132.6	132.8	133.1
171.0	138.6	138.2	136.3	135.4	134.4	134.7	134.9	135.5	135.6	135.6
174.0	140.1	139.9	138.6	138.1	137.3	137.8	137.9	138.4	138.1	137.7
177.0	141.8	141.7	140.7	140.4	139.9	140.4	140.4	140.7	139.9	139.2
180.0	142.9	142.9	141.9	142.0	141.4	141.9	141.7	141.7	140.6	140.0
G/C	150.0	165.0	180.0	195.0	210.0	225.0	240.0	255.0	270.0	285.0
0.0	19768	19720	20301	20208	20100	20047	19965	19925	19875	19851
3.0	19951	20070	20722	20732	20701	20619	20465	20293	20099	19917
6.0	19817	20067	20853	20953	20932	20766	20582	20407	20168	19967
9.0	19690	19849	20652	20766	20846	20776	20586	20436	20155	19855
12.0	19469	19637	20328	20394	20565	20544	20504	20181	19712	19320
15.0	19045	19173	19657	19754	20211	20046	19902	19509	18960	18635
18.0	18095	18280	18692	18732	19294	19130	18825	18377	17901	17739
21.0	16780	16886	17450	17372	17781	17664	17476	16951	16545	16277
24.0	15073	15426	16131	15897	15923	15751	15648	15264	14928	14437
27.0	13332	13567	14086	13905	14022	13476	13358	13207	13072	12635
30.0	11419	11513	11925	11701	11816	11318	11214	11044	11054	10785

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: KAR
Test Date: 22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity: 65.0%
Test Distance: 8.100m [K=1.0000]
Remarks: NTB-150C_A60

Photometric Data Table [cd]

33.0	9506	9523	9890	9667	9677	9522	9329	9003	8999	8767
36.0	7706	7691	7915	7771	7743	7700	7447	7062	7016	6853
39.0	6047	5781	5818	5773	6042	5949	5692	5295	5198	5158
42.0	4538	4049	3979	3954	4385	4458	4274	3850	3727	3754
45.0	3227	2794	2832	2769	3046	3260	3129	2774	2683	2683
48.0	2248	2017	2009	2010	2114	2353	2242	2015	1972	1961
51.0	1607	1457	1474	1467	1584	1694	1647	1501	1461	1458
54.0	1210	1103	1143	1141	1213	1261	1227	1142	1112	1109
57.0	937.7	872.6	922.3	908.8	932.4	937.4	922.7	870.3	856.4	854.2
60.0	725.3	701.1	731.1	727.8	732.5	716.2	707.4	663.9	654.5	659.2
63.0	579.1	560.8	569.9	567.8	573.2	553.5	538.7	499.6	499.1	500.0
66.0	455.6	440.3	448.2	437.1	440.6	418.2	400.3	369.6	368.9	372.4
69.0	347.7	336.1	343.3	331.0	328.3	303.2	286.7	259.9	260.2	262.4
72.0	254.1	251.2	253.9	245.6	231.5	207.1	189.8	171.0	172.2	174.8
75.0	175.6	178.8	176.4	173.6	151.3	130.8	114.7	104.9	105.9	108.7
78.0	111.3	113.4	109.4	106.5	88.55	70.82	61.22	54.82	55.38	57.58
81.0	59.51	61.14	57.90	53.79	41.91	31.95	26.27	23.01	23.65	24.51
84.0	25.00	26.42	24.39	21.13	15.54	11.24	9.524	8.419	8.506	8.849
87.0	9.939	10.07	8.429	7.912	7.303	7.036	6.805	6.654	6.569	6.587
90.0	8.421	8.435	7.591	7.626	7.633	7.529	7.392	7.251	7.195	7.195
93.0	9.941	9.950	8.846	8.894	8.943	8.944	8.822	8.684	8.524	8.518
96.0	11.95	11.98	10.57	10.61	10.63	10.66	10.53	10.42	10.25	10.28
99.0	14.46	14.52	12.77	12.82	12.77	12.83	12.70	12.64	12.49	12.57
102.0	17.48	17.59	15.54	15.49	15.48	15.45	15.39	15.33	15.31	15.40
105.0	21.09	21.15	18.82	18.71	18.64	18.59	18.57	18.60	18.64	18.83
108.0	25.27	25.29	22.67	22.49	22.34	22.31	22.30	22.41	22.54	22.83
111.0	29.99	29.92	27.03	26.82	26.58	26.57	26.56	26.80	26.97	27.40
114.0	35.20	35.07	31.94	31.64	31.38	31.35	31.37	31.67	31.95	32.48
117.0	40.87	40.69	37.42	37.00	36.71	36.64	36.71	37.04	37.45	38.07
120.0	46.97	46.71	43.39	42.83	42.47	42.37	42.47	42.87	43.39	44.16
123.0	53.39	53.09	49.78	49.09	48.65	48.50	48.60	49.10	49.72	50.59
126.0	60.08	59.74	56.53	55.72	55.18	55.00	55.12	55.68	56.40	57.33
129.0	66.95	66.61	63.61	62.66	62.03	61.76	61.96	62.53	63.33	64.25
132.0	73.92	73.60	70.87	69.80	69.13	68.82	69.01	69.60	70.37	71.33
135.0	80.92	80.66	78.26	77.07	76.35	76.01	76.18	76.75	77.50	78.45
138.0	87.82	87.63	85.68	84.43	83.64	83.23	83.40	83.86	84.66	85.48
141.0	94.50	94.50	93.07	91.67	90.84	90.39	90.49	90.86	91.60	92.33
144.0	100.9	101.1	100.3	98.76	97.83	97.27	97.34	97.65	98.31	98.90
147.0	106.8	107.2	107.1	105.5	104.5	103.8	103.8	104.0	104.6	105.0
150.0	112.2	112.9	113.4	111.7	110.6	109.8	109.7	109.8	110.2	110.4
153.0	117.0	117.8	119.0	117.3	116.2	115.2	115.0	115.0	115.2	115.1
156.0	121.1	122.0	123.8	122.2	121.2	120.0	119.7	119.5	119.5	119.1
159.0	124.8	125.6	128.1	126.5	125.6	124.3	123.9	123.4	123.2	122.5
162.0	128.0	128.9	131.9	130.3	129.5	128.2	127.6	126.9	126.5	125.6
165.0	130.9	131.7	135.2	133.6	133.0	131.7	131.1	130.1	129.5	128.6
168.0	133.5	134.2	137.8	136.4	136.0	134.8	134.2	133.3	132.6	131.7
171.0	135.6	136.1	140.0	138.7	138.4	137.3	137.1	136.1	135.6	134.7
174.0	137.4	137.6	141.8	140.6	140.5	139.5	139.5	138.9	138.5	137.5
177.0	138.7	138.8	143.2	142.0	141.9	141.0	141.3	141.0	141.0	140.1
180.0	139.4	139.3	143.6	142.3	142.4	141.5	141.8	141.6	142.0	141.5
G/C	300.0	315.0	330.0	345.0						
0.0	19826	19796	19768	19720						
3.0	19763	19626	19498	19375						
6.0	19816	19637	19332	18979						
9.0	19791	19531	18998	18386						
12.0	19229	18928	18225	17507						
15.0	18411	17992	17288	16746						
18.0	17338	16833	16347	15644						
21.0	15678	15369	14865	14214						
24.0	13923	13637	13104	12889						
27.0	12273	11883	11533	11542						
30.0	10577	10238	10127	9970						
33.0	8739	8540	8551	8253						
36.0	6990	6988	6895	6745						
39.0	5392	5515	5420	5275						
42.0	3987	4157	4118	3844						
45.0	2886	3045	3020	2747						
48.0	2108	2237	2154	2064						
51.0	1553	1642	1587	1553						
54.0	1177	1234	1209	1185						
57.0	902.4	949.3	947.6	931.3						
60.0	689.9	729.3	743.2	754.4						
63.0	535.3	562.9	591.0	608.0						
66.0	406.0	433.2	459.3	482.6						

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: KAR
Test Date: 22 July 2021

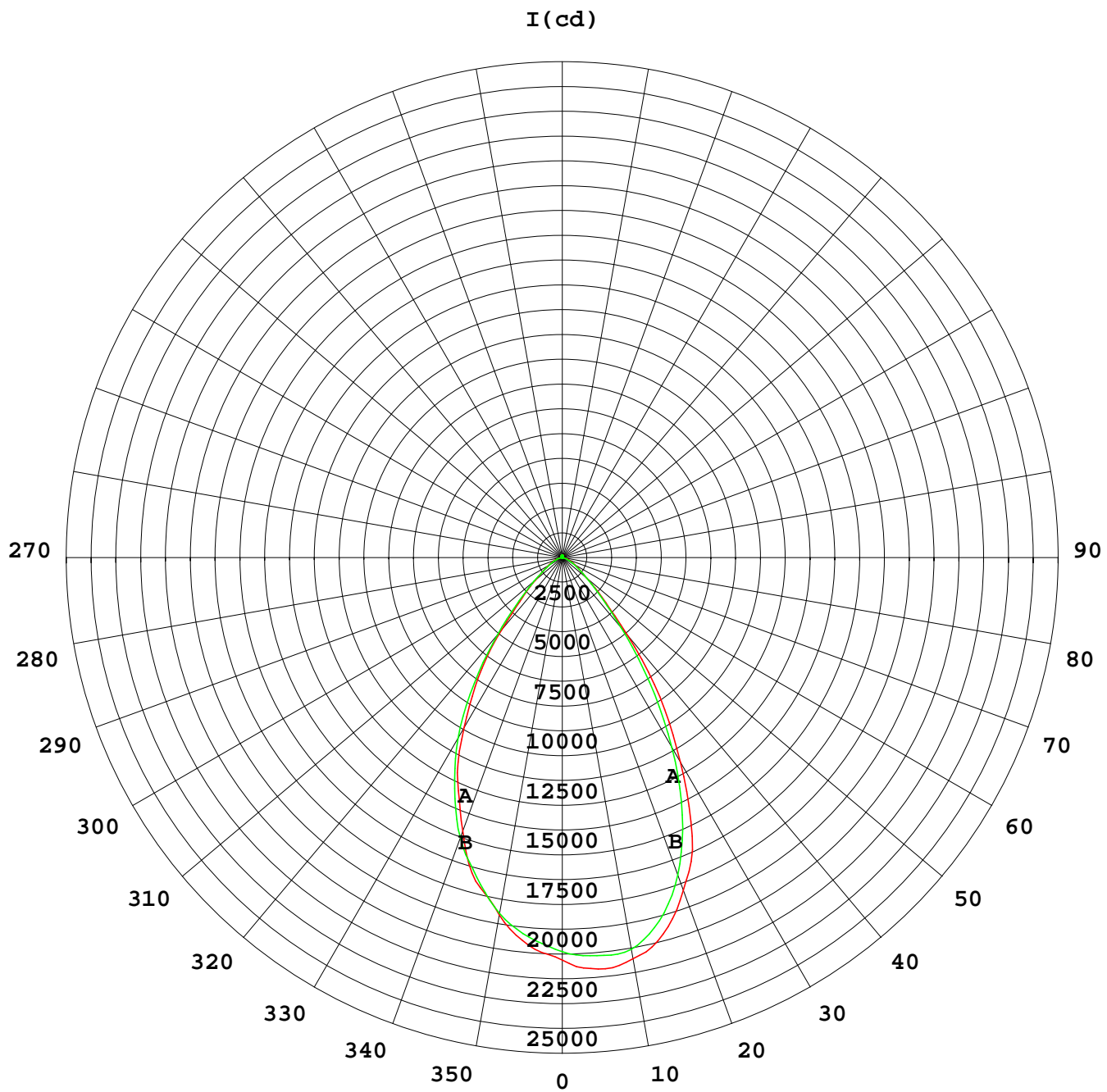
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity: 65.0%
Test Distance: 8.100m [K=1.0000]
Remarks: NTB-150C_A60

Photometric Data Table [cd]

69.0	293.2	316.3	349.0	372.8
72.0	196.9	221.4	255.4	281.0
75.0	121.6	143.3	174.2	200.1
78.0	67.04	80.85	107.1	130.4
81.0	29.81	38.56	55.13	72.60
84.0	10.59	14.21	22.09	32.02
87.0	6.738	6.973	7.989	11.36
90.0	7.173	7.114	6.962	6.839
93.0	8.490	8.437	8.250	8.079
96.0	10.25	10.22	9.994	9.812
99.0	12.55	12.55	12.29	12.12
102.0	15.45	15.42	15.22	15.01
105.0	18.91	18.93	18.74	18.57
108.0	22.97	23.07	22.90	22.79
111.0	27.61	27.84	27.70	27.67
114.0	32.86	33.17	33.12	33.09
117.0	38.59	38.99	39.03	39.10
120.0	44.75	45.27	45.39	45.57
123.0	51.26	51.83	52.06	52.35
126.0	58.02	58.66	58.95	59.36
129.0	65.00	65.66	66.02	66.50
132.0	72.12	72.75	73.17	73.70
135.0	79.23	79.83	80.24	80.83
138.0	86.21	86.75	87.18	87.80
141.0	92.96	93.42	93.79	94.50
144.0	99.40	99.62	100.0	100.8
147.0	105.3	105.3	105.7	106.5
150.0	110.5	110.4	110.7	111.6
153.0	115.1	114.7	115.1	116.0
156.0	118.9	118.5	118.9	119.7
159.0	122.2	121.7	122.2	123.0
162.0	125.1	124.7	125.2	126.0
165.0	128.0	127.7	128.1	128.8
168.0	131.0	130.6	130.9	131.4
171.0	134.0	133.5	133.7	133.9
174.0	136.9	136.3	136.4	136.3
177.0	139.5	138.7	138.5	138.2
180.0	140.8	139.8	139.5	139.1

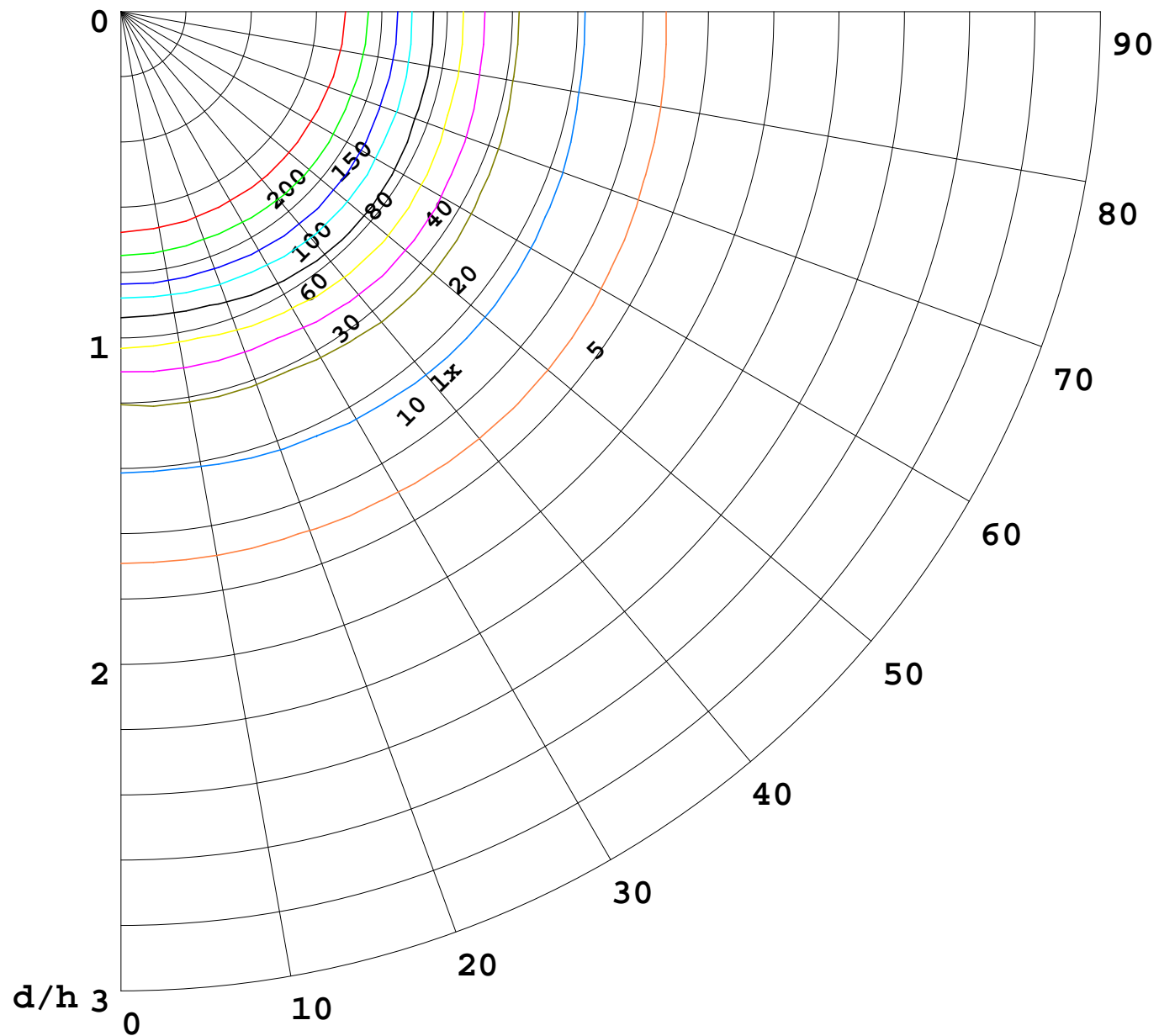
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: KAR
Test Date: 22 July 2021

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity: 65.0%
Test Distance: 8.100m [K=1.0000]
Remarks: NTB-150C_A60



1000 lm

$K = 1$



F = 1000 lm
 K = 0.7
 H_{cc} = 0.8 m
 H_{fc} = 0.0 m
 E_{ave} = 100 lx

	P_{cc}	P_w	P_{fc}
—————	70	50	30
—————	50	30	20

