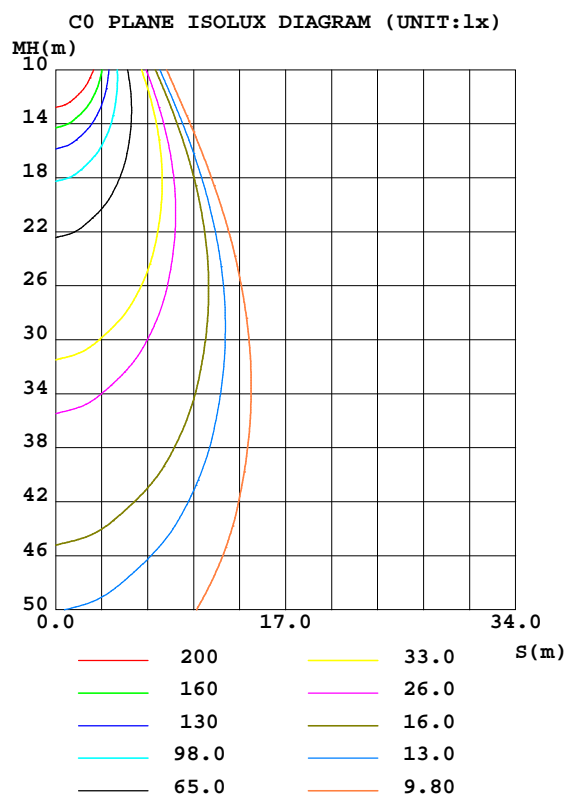
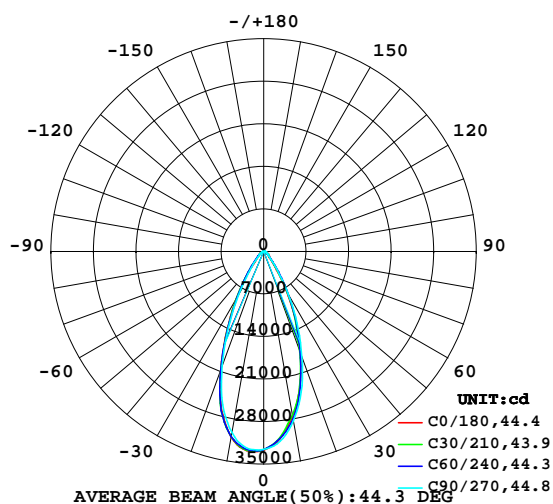


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 146.99 lm/W			
MODEL	NTB-150C_A45	Imax(cd)	32965	S/MH(C0/180)	0.73
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	0.72
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	21978	η UP,DN(C0-180)	0.8,48.2
NOMINAL FLUX(lm)	21978.2	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.8,50.2
LAMPS INSIDE	1	η up(%)	1.6	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	98.4	CIBSE SHR MAX	0.75

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



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_A45

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2756	2767	2826	3007	3100	3095	3024	2902	0- 10	2961	2961	13.5,13.5
20	1772	1758	1845	1986	2071	2044	2004	1840	10- 20	6859	9820	44.7,44.7
30	751.7	808.2	805.1	894.7	906.8	905.8	833.4	803.8	20- 30	6067	15886	72.3,72.3
40	197.6	266.1	240.6	316.2	236.2	335.1	246.2	273.2	30- 40	3069	18955	86.2,86.2
50	102.1	106.4	103.6	118.4	110.5	129.3	104.8	107.4	40- 50	1251	20206	91.9,91.9
60	65.69	64.31	61.24	65.62	69.04	66.00	58.54	61.47	50- 60	747.5	20954	95.3,95.3
70	35.16	33.54	28.77	32.01	34.03	30.15	25.07	29.51	60- 70	462.9	21417	97.4,97.4
80	9.739	8.171	6.007	7.094	8.558	5.659	3.932	5.804	70- 80	186.6	21603	98.3,98.3
90	0.6550	0.6727	0.6405	0.6325	0.5617	0.5646	0.5520	0.5627	80- 90	24.87	21628	98.4,98.4
100	1.145	1.136	1.073	1.042	0.8633	0.8798	0.8699	0.9182	90-100	8.297	21637	98.4,98.4
110	2.383	2.321	2.230	2.103	1.728	1.712	1.749	1.840	100-110	15.03	21652	98.5,98.5
120	4.656	4.569	4.425	4.172	3.534	3.471	3.573	3.760	110-120	28.84	21680	98.6,98.6
130	7.684	7.587	7.395	7.059	6.282	6.176	6.336	6.607	120-130	48.12	21728	98.9,98.9
140	10.76	10.62	10.45	10.13	9.499	9.363	9.517	9.746	130-140	65.07	21794	99.2,99.2
150	13.11	12.88	12.81	12.59	12.35	12.14	12.26	12.32	140-150	70.97	21865	99.5,99.5
160	14.13	13.80	13.77	13.72	13.90	13.59	13.59	13.49	150-160	61.20	21926	99.8,99.8
170	14.05	13.76	13.79	13.88	14.17	13.92	13.77	13.62	160-170	39.14	21965	99.9,99.9
180	14.17	14.14	14.29	14.08	14.20	14.13	14.30	14.07	170-180	13.31	21978	100,100
DEG	LUMINOUS INTENSITY: #10cd									UNIT: lm		

Conical surface Flux(90deg): 19689 lm

%lum = 89.6%

%lamp = 89.6%

Conical surface Flux(120deg): 20954 lm

%lum = 95.3%

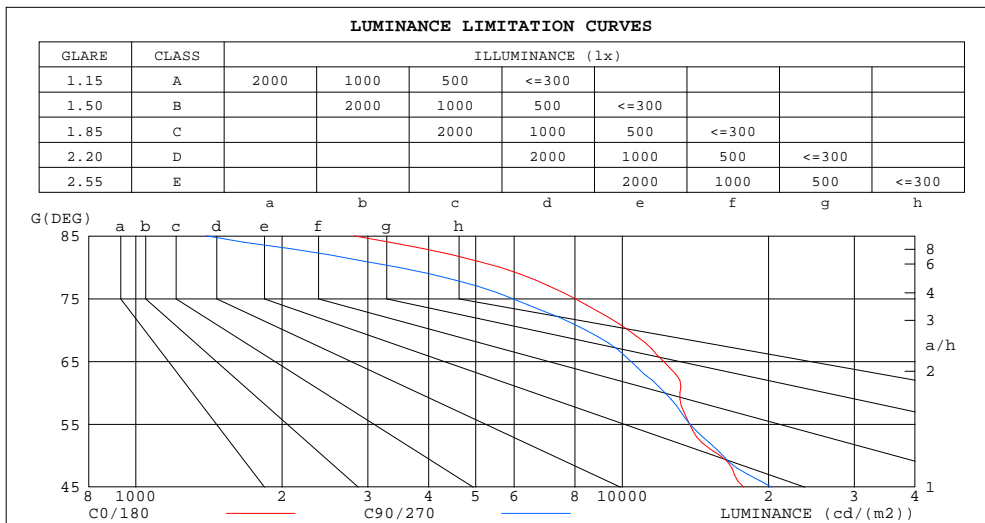
%lamp = 95.3%

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_A45

LUMINANCE LIMITATION CURVES

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2811	1398
80	5608	3459
75	8002	5952
70	10281	8410
65	12166	10425
60	13138	12248
55	13758	13784
50	15883	16115
45	17757	20262

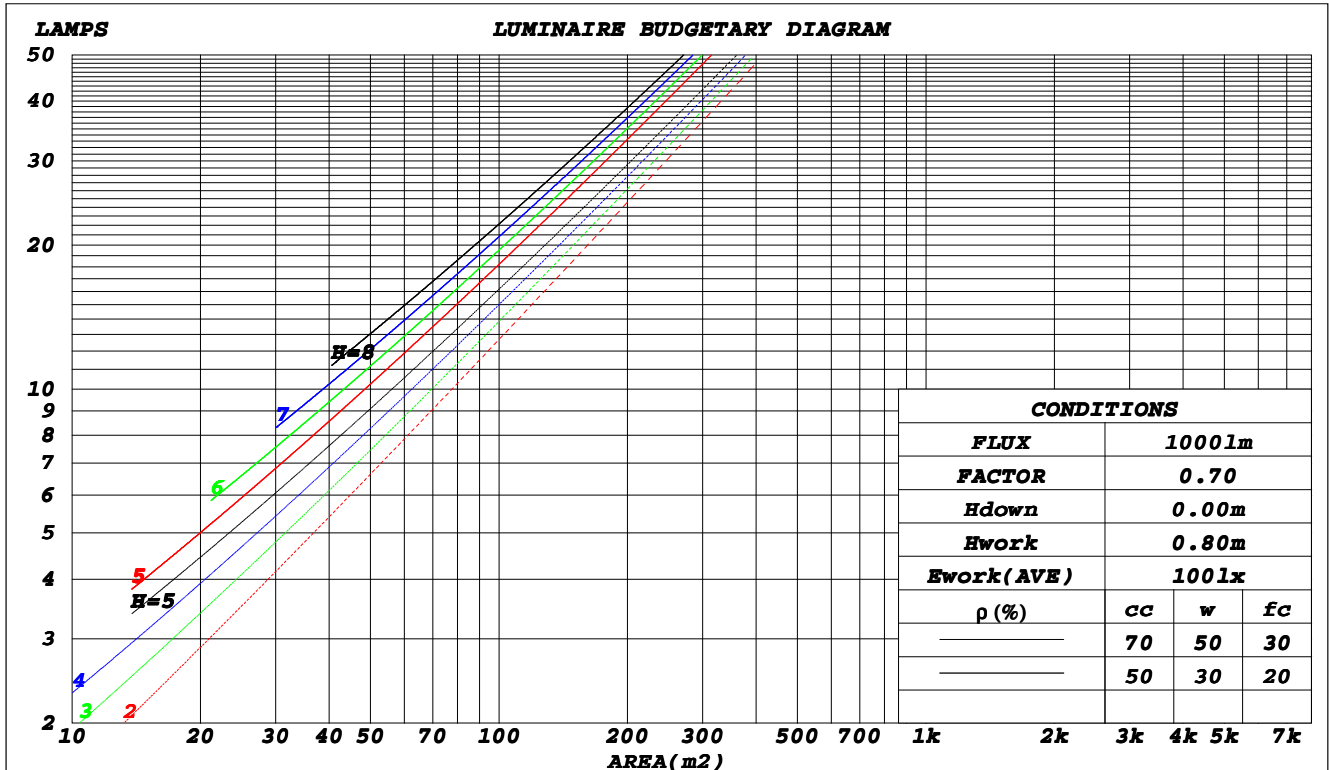
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

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_A45

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	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															



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_A45

WEC AND CCEC

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	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	.185	.105	.033	.178	.102	.032	.164	.094	.030	.152	.088	.028	.141	.081	.026		
2.0	.176	.097	.030	.170	.094	.029	.159	.088	.027	.148	.083	.026	.138	.078	.025		
3.0	.167	.089	.027	.162	.087	.026	.152	.082	.025	.143	.078	.024	.134	.074	.023		
4.0	.158	.082	.024	.153	.080	.024	.145	.077	.023	.137	.073	.022	.129	.070	.021		
5.0	.149	.076	.022	.145	.075	.022	.138	.072	.021	.131	.069	.021	.124	.066	.020		
6.0	.141	.071	.020	.138	.070	.020	.131	.067	.020	.125	.065	.019	.119	.063	.019		
7.0	.134	.066	.019	.131	.065	.019	.125	.063	.018	.120	.061	.018	.115	.060	.017		
8.0	.128	.063	.018	.125	.062	.017	.120	.060	.017	.115	.058	.017	.110	.057	.016		
9.0	.122	.059	.016	.120	.058	.016	.115	.057	.016	.110	.055	.016	.106	.054	.016		
10.0	.117	.056	.016	.114	.055	.015	.110	.054	.015	.106	.053	.015	.102	.051	.015		

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	.203	.203	.203	.173	.173	.173	.118	.118	.118	.068	.068	.068	.022	.022	.022	
1.0	.184	.169	.156	.157	.145	.135	.108	.100	.093	.062	.058	.054	.020	.019	.018	
2.0	.169	.145	.124	.145	.125	.107	.099	.086	.075	.057	.050	.044	.018	.016	.014	
3.0	.157	.126	.101	.135	.109	.088	.092	.076	.062	.053	.044	.036	.017	.014	.012	
4.0	.147	.111	.084	.126	.096	.073	.087	.067	.052	.050	.039	.031	.016	.013	.010	
5.0	.138	.100	.072	.118	.086	.062	.082	.060	.044	.047	.035	.026	.015	.012	.009	
6.0	.130	.091	.062	.112	.078	.054	.077	.055	.038	.045	.032	.023	.014	.011	.008	
7.0	.124	.083	.055	.106	.072	.048	.073	.050	.034	.043	.030	.020	.014	.010	.007	
8.0	.118	.077	.049	.101	.067	.042	.070	.047	.030	.041	.028	.018	.013	.009	.006	
9.0	.112	.072	.044	.097	.062	.038	.067	.044	.027	.039	.026	.016	.013	.008	.005	
10.0	.108	.067	.040	.093	.058	.035	.064	.041	.025	.038	.024	.015	.012	.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_A45

UGR(Unified Glare Rating) Table

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm										
NAME: NTB-150C_A45					TYPE:LED			WEIGHT:		
SPEC.:150C_A45					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	18.2	19.2	18.5	19.4	19.6	18.5	19.5	18.8	19.7	19.9
3H	19.0	19.8	19.2	20.1	20.3	19.0	19.9	19.3	20.1	20.3
4H	19.2	20.0	19.5	20.3	20.5	19.1	19.9	19.4	20.2	20.4
6H	19.3	20.1	19.6	20.3	20.6	19.1	19.9	19.4	20.1	20.4
8H	19.3	20.0	19.6	20.3	20.6	19.1	19.8	19.4	20.1	20.4
12H	19.2	20.0	19.6	20.3	20.6	19.0	19.7	19.4	20.0	20.3
4H 2H	18.5	19.3	18.8	19.5	19.8	18.7	19.6	19.0	19.8	20.1
3H	19.4	20.1	19.7	20.4	20.7	19.3	20.0	19.7	20.3	20.6
4H	19.7	20.3	20.1	20.7	21.0	19.5	20.1	19.9	20.5	20.8
6H	19.8	20.4	20.2	20.8	21.1	19.5	20.1	19.9	20.4	20.8
8H	19.8	20.4	20.3	20.7	21.2	19.5	20.0	19.9	20.4	20.8
12H	19.8	20.3	20.3	20.7	21.1	19.4	19.9	19.9	20.3	20.7
8H 4H	19.7	20.2	20.1	20.6	21.0	19.5	20.0	19.9	20.4	20.8
6H	19.9	20.3	20.4	20.8	21.2	19.6	20.0	20.0	20.4	20.9
8H	19.9	20.3	20.4	20.8	21.2	19.5	19.9	20.0	20.4	20.8
12H	19.9	20.2	20.4	20.7	21.2	19.5	19.8	20.0	20.3	20.8
12H 4H	19.7	20.1	20.1	20.5	21.0	19.5	20.0	19.9	20.4	20.8
6H	19.9	20.3	20.3	20.7	21.2	19.5	19.9	20.0	20.4	20.8
8H	19.9	20.2	20.4	20.7	21.2	19.5	19.8	20.0	20.3	20.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.8					+ 1.0 / - 1.3				
1.5H	+ 1.2 / - 0.7					+ 1.9 / - 1.0				
2.0H	+ 0.4 / - 0.4					+ 1.1 / - 0.7				

CIE Pub.117 Corrected 21978 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.7)

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_A45

UTILIZATION FACTORS TABLE

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

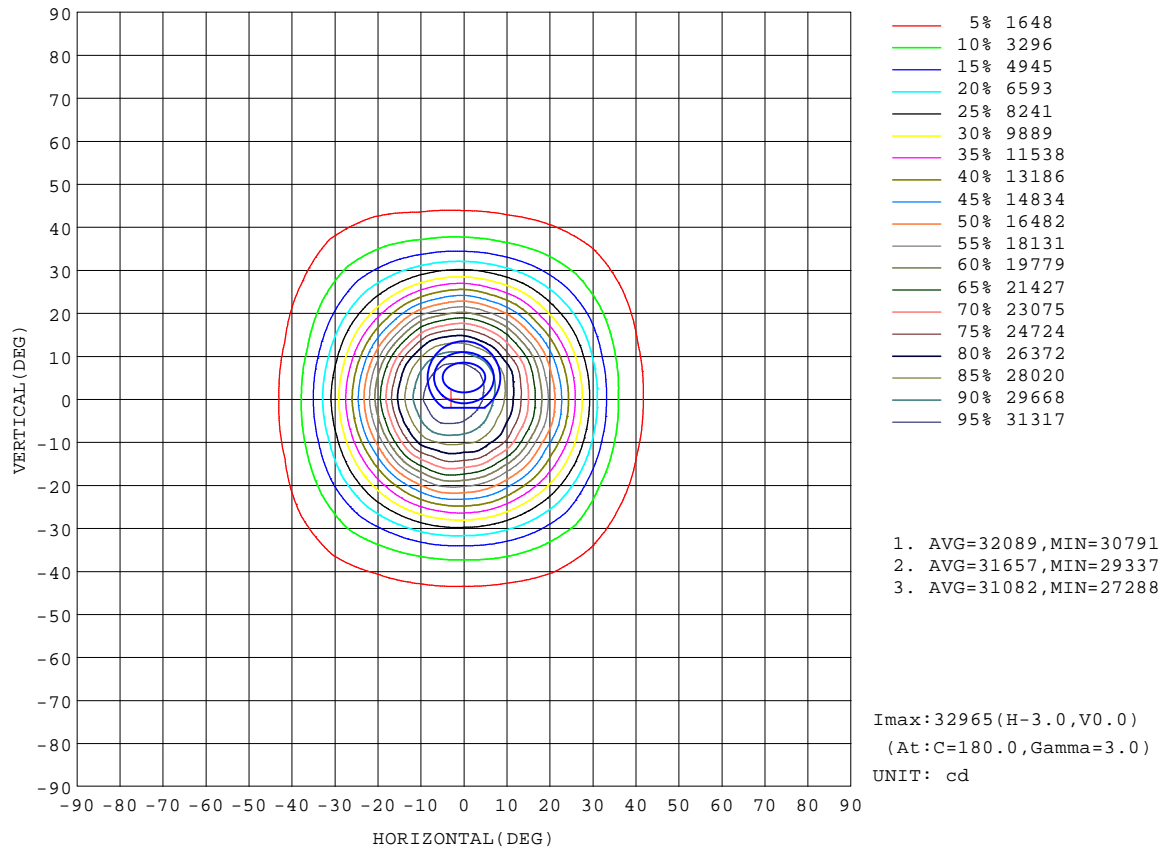
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	83	76	72	82	76	72	81	75	71	67
0.80	91	84	80	90	84	80	89	83	79	75
1.00	96	89	85	95	89	85	93	89	84	80
1.25	100	94	90	99	94	90	97	92	89	84
1.50	103	98	94	102	97	93	99	95	92	87
2.00	106	102	98	105	101	97	102	98	96	90
2.50	108	104	101	107	103	100	103	100	98	91
3.00	110	106	103	108	105	102	105	102	100	93
4.00	112	109	107	110	108	105	106	104	102	95
5.00	114	111	109	112	109	107	107	106	104	96
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_A45

ISOCANDELA DIAGRAM

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:



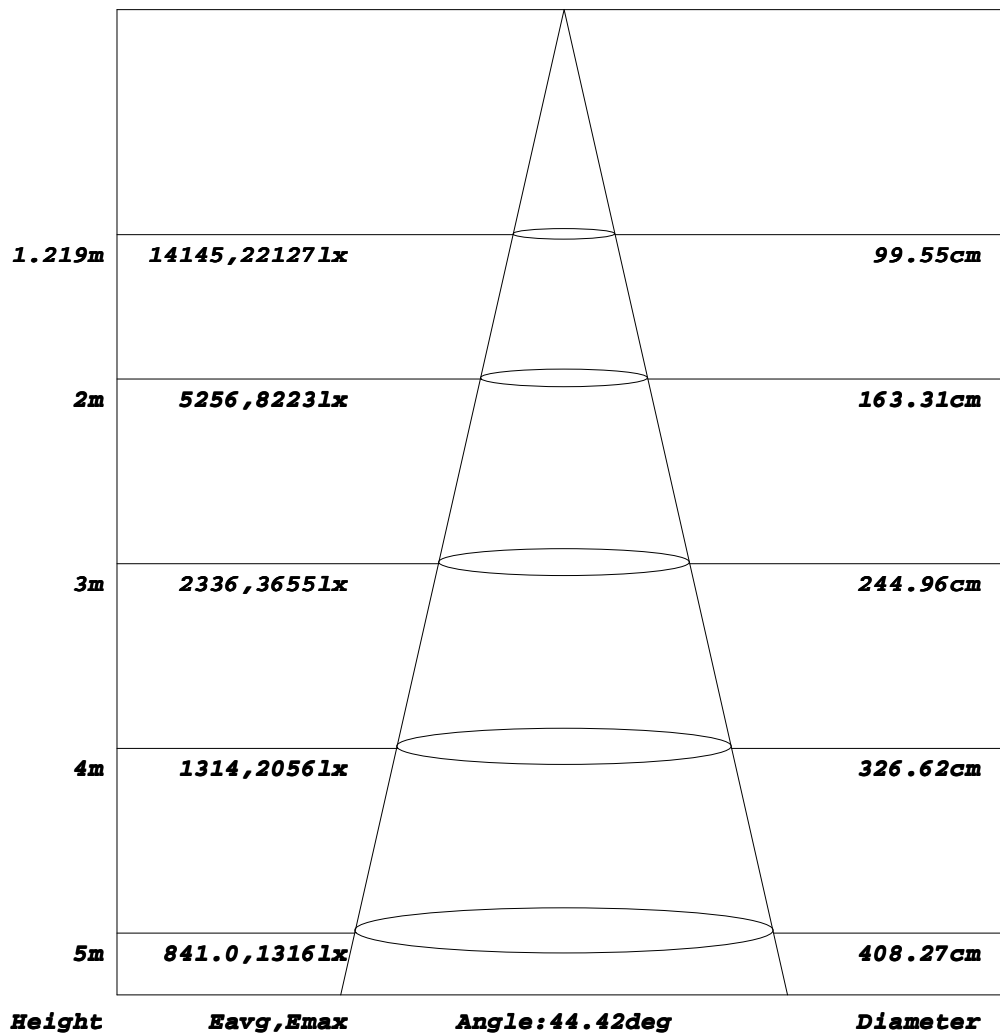
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:KAR
Test Date:22 July 2021

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_A45

AAI Figure

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

Flux out:11902 lm



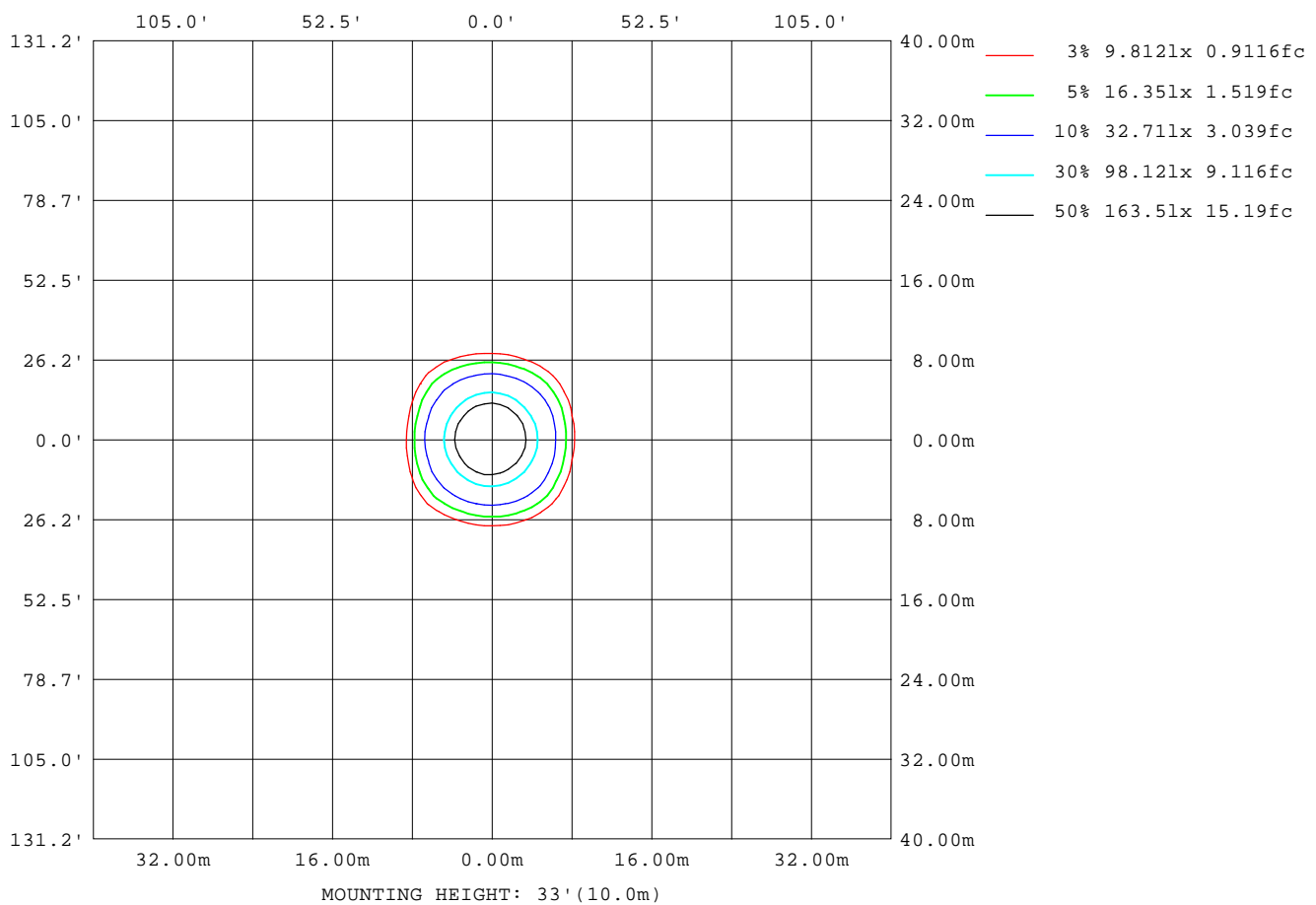
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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_A45

ISOLUX DIAGRAM

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	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_A45

LED Avg.L Report

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

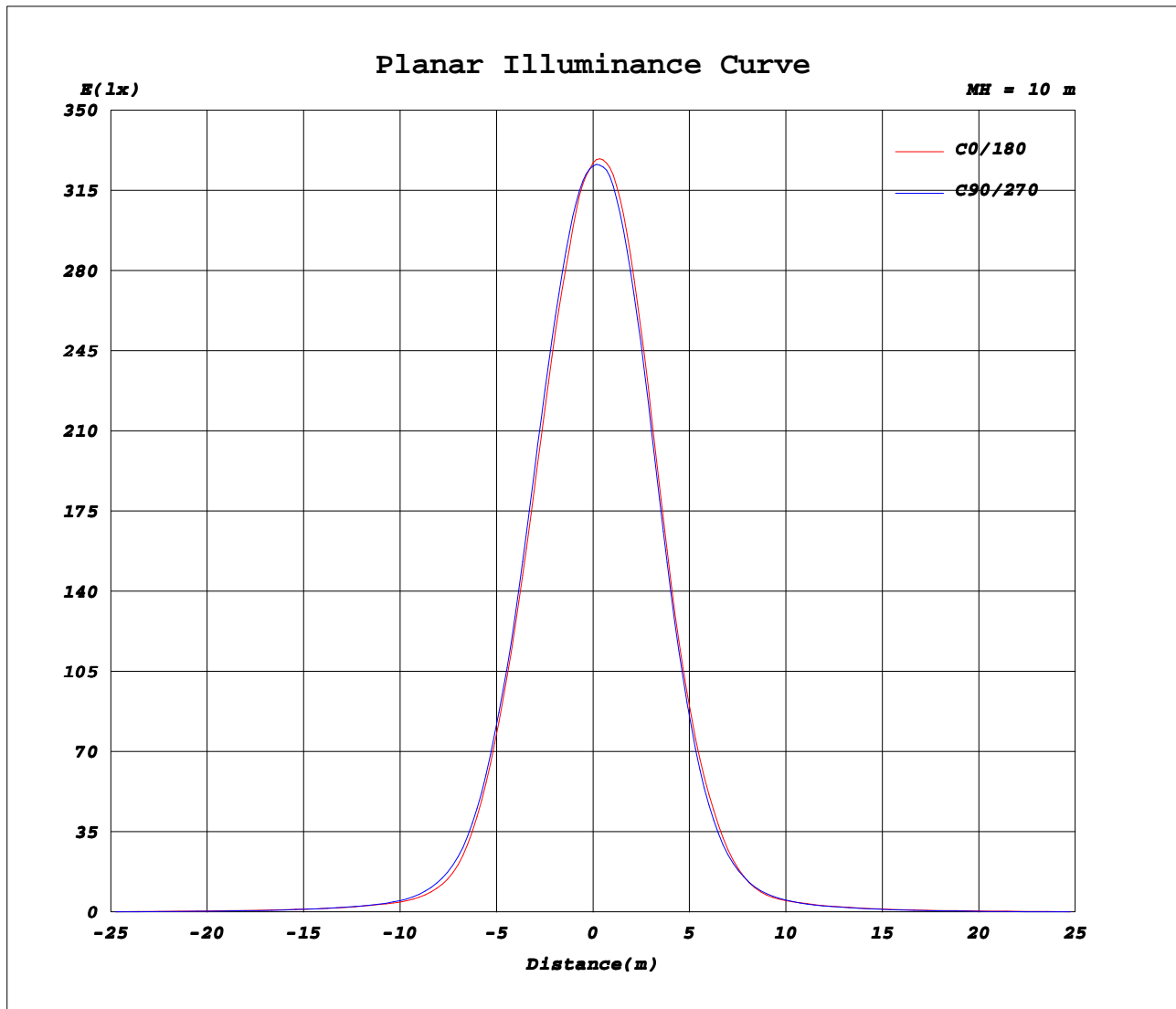
AvgL	cd/m2
L_0~180(65)av	12104
L_0~180(75)av	7762
L_0~180(85)av	2449
L_90~270(65)av	10017
L_90~270(75)av	5367
L_90~270(85)av	1093
L_45(65)av	11095
L_45(75)av	6619
L_45(85)av	1514

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_A45

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_A45

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	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	3271	3265	3261	3261	3258	3258	3257	3256	3254	3256	3253	3249	3271	3265	3261	3261	3258	3258	3257
5	3096	3080	3075	3085	3090	3108	3133	3165	3189	3220	3238	3249	3288	3286	3282	3274	3266	3260	3249
10	2756	2752	2731	2767	2793	2823	2826	2867	2936	3007	3041	3056	3100	3093	3093	3095	3092	3056	3024
15	2305	2314	2295	2341	2325	2385	2394	2472	2491	2603	2607	2639	2691	2676	2710	2689	2709	2639	2612
20	1772	1777	1729	1758	1760	1808	1845	1921	1927	1986	1982	2008	2071	2072	2070	2044	2067	1999	2004
25	1249	1244	1229	1247	1258	1288	1302	1331	1353	1365	1370	1406	1435	1418	1420	1394	1410	1377	1380
30	752	759	789	808	803	804	805	837	867	895	897	887	907	896	917	906	885	854	833
35	376	393	427	487	476	454	439	460	491	540	536	500	496	505	540	566	530	482	456
40	198	202	230	266	262	246	241	247	276	316	296	253	236	246	302	335	311	264	246
45	126	125	137	153	157	147	143	149	158	183	170	143	142	144	167	198	186	157	148
50	102	102	98.0	106	108	105	104	104	111	118	112	109	110	113	115	129	124	110	105
55	78.9	79.4	81.9	81.7	82.1	79.5	79.1	79.8	83.1	86.9	85.5	84.8	86.6	86.6	90.0	90.1	88.4	80.2	78.3
60	65.7	64.2	65.3	64.3	62.5	61.3	61.2	61.2	63.2	65.6	67.4	66.0	69.0	67.2	67.8	66.0	63.5	58.9	58.5
65	51.4	51.6	49.3	48.0	46.6	44.3	44.1	44.5	45.3	48.1	49.1	49.8	50.9	50.2	48.7	46.5	44.4	40.9	40.6
70	35.2	35.5	34.9	33.5	31.0	29.4	28.8	28.9	30.1	32.0	33.1	33.8	34.0	33.3	32.5	30.1	27.5	25.1	25.1
75	20.7	21.3	21.1	19.4	17.0	16.0	15.4	15.7	16.0	17.8	18.8	19.5	19.5	19.2	18.2	15.8	13.7	12.4	12.4
80	9.74	10.1	9.55	8.17	7.05	6.41	6.01	6.07	6.29	7.09	7.86	8.41	8.56	8.29	7.18	5.66	4.66	4.00	3.93
85	2.45	2.66	2.31	1.89	1.50	1.32	1.22	1.22	1.24	1.45	1.65	1.85	1.82	1.77	1.33	0.93	0.77	0.68	0.69
90	0.65	0.66	0.67	0.67	0.67	0.65	0.64	0.63	0.63	0.63	0.63	0.62	0.56	0.56	0.57	0.56	0.56	0.56	0.55
95	0.83	0.83	0.84	0.84	0.83	0.81	0.79	0.78	0.79	0.78	0.78	0.77	0.67	0.67	0.68	0.68	0.68	0.68	0.67
100	1.14	1.14	1.15	1.14	1.13	1.09	1.07	1.05	1.06	1.04	1.04	1.02	0.86	0.86	0.87	0.88	0.88	0.88	0.87
105	1.64	1.64	1.63	1.61	1.59	1.56	1.53	1.50	1.49	1.46	1.46	1.45	1.19	1.19	1.19	1.21	1.20	1.21	1.21
110	2.38	2.37	2.36	2.32	2.31	2.26	2.23	2.17	2.15	2.10	2.10	2.09	1.73	1.72	1.71	1.71	1.71	1.73	1.75
115	3.38	3.37	3.36	3.31	3.29	3.24	3.19	3.12	3.07	3.01	3.00	2.98	2.50	2.49	2.46	2.46	2.46	2.50	2.53
120	4.66	4.64	4.62	4.57	4.55	4.48	4.43	4.32	4.26	4.17	4.15	4.11	3.53	3.50	3.47	3.47	3.47	3.53	3.57
125	6.12	6.10	6.08	6.03	5.99	5.92	5.85	5.74	5.65	5.55	5.51	5.47	4.81	4.77	4.72	4.72	4.74	4.80	4.86
130	7.68	7.68	7.64	7.59	7.55	7.47	7.39	7.27	7.17	7.06	7.01	6.97	6.28	6.22	6.17	6.18	6.19	6.27	6.34
135	9.26	9.25	9.21	9.15	9.11	9.04	8.96	8.83	8.72	8.62	8.58	8.53	7.88	7.81	7.76	7.76	7.77	7.85	7.92
140	10.8	10.7	10.7	10.6	10.6	10.5	10.5	10.3	10.2	10.1	10.1	10.1	9.50	9.42	9.37	9.36	9.38	9.45	9.52
145	12.1	12.0	11.9	11.9	11.9	11.8	11.8	11.7	11.6	11.5	11.5	11.4	11.0	10.9	10.9	10.9	10.9	11.0	11.0
150	13.1	13.1	12.9	12.9	12.9	12.8	12.8	12.7	12.7	12.6	12.6	12.6	12.3	12.2	12.2	12.1	12.2	12.2	12.3
155	13.8	13.7	13.6	13.5	13.5	13.5	13.5	13.4	13.4	13.3	13.3	13.4	13.3	13.2	13.1	13.1	13.1	13.1	13.1
160	14.1	14.1	13.9	13.8	13.7	13.8	13.8	13.8	13.7	13.7	13.7	13.8	13.9	13.8	13.7	13.6	13.6	13.6	13.6
165	14.1	14.1	13.9	13.8	13.7	13.7	13.8	13.8	13.8	13.8	13.9	13.9	14.1	14.0	13.9	13.8	13.8	13.7	13.7
170	14.1	14.0	13.9	13.8	13.7	13.7	13.8	13.9	13.9	13.9	13.9	13.9	14.2	14.1	14.0	13.9	13.9	13.8	13.8
175	14.0	14.0	14.0	13.9	13.9	14.0	14.1	14.1	14.1	14.0	13.9	13.9	14.2	14.1	14.1	14.0	14.1	14.1	14.0
180	14.2	14.2	14.1	14.1	14.1	14.2	14.3	14.3	14.2	14.1	14.0	14.0	14.2	14.2	14.2	14.1	14.2	14.2	14.3

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_A45

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.4V I:0.6932A P:149.5W PF:0.9833 Lamp Flux:21978.2x1 lm		
NAME: NTB-150C_A45	TYPE:LED	WEIGHT:
SPEC.:150C_A45	DIM.:	SERIAL No.:
MFR.: ICEPIPE	SUR.:	Shielding Angle:

Table--2

UNIT: #10cd

C(DEC) γ (DEC)	285	300	315	330	345														
0	3256	3254	3256	3253	3249														
5	3225	3203	3179	3150	3113														
10	2986	2964	2902	2850	2798														
15	2548	2510	2436	2419	2335														
20	1935	1904	1840	1826	1771														
25	1322	1309	1264	1255	1255														
30	814	822	804	801	768														
35	451	467	478	457	402														
40	243	264	273	243	211														
45	148	157	162	146	129														
50	104	109	107	102	100														
55	77.9	80.7	80.7	79.7	79.8														
60	58.1	60.6	61.5	64.3	63.2														
65	40.6	41.6	44.9	47.5	49.2														
70	25.0	27.3	29.5	32.2	34.5														
75	12.6	13.6	15.5	18.4	20.2														
80	4.08	4.71	5.80	7.61	9.07														
85	0.70	0.80	1.00	1.52	2.16														
90	0.55	0.56	0.56	0.57	0.57														
95	0.67	0.69	0.70	0.70	0.70														
100	0.88	0.90	0.92	0.92	0.92														
105	1.23	1.25	1.28	1.29	1.30														
110	1.78	1.80	1.84	1.85	1.88														
115	2.58	2.61	2.66	2.68	2.72														
120	3.65	3.69	3.76	3.79	3.84														
125	4.95	5.01	5.10	5.14	5.20														
130	6.44	6.51	6.61	6.65	6.73														
135	8.02	8.09	8.19	8.24	8.32														
140	9.61	9.66	9.75	9.79	9.88														
145	11.1	11.1	11.2	11.2	11.3														
150	12.3	12.3	12.3	12.3	12.4														
155	13.1	13.1	13.1	13.1	13.2														
160	13.6	13.5	13.5	13.6	13.7														
165	13.6	13.6	13.6	13.7	13.8														
170	13.7	13.6	13.6	13.7	13.8														
175	14.0	13.9	13.8	13.9	13.9														
180	14.3	14.2	14.1	14.0	14.0														

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_A45

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	32707	32651	32614	32607	32581	32579	32566	32556	32538	32557
3.0	31916	31782	31695	31684	31728	31870	32044	32219	32358	32501
6.0	30301	30139	30131	30287	30416	30592	30863	31193	31531	31966
9.0	28286	28113	27979	28297	28640	28854	29015	29411	30055	30688
12.0	25893	25918	25820	26284	26273	26781	26683	27312	27732	28595
15.0	23053	23142	22949	23410	23251	23851	23944	24716	24910	26034
18.0	19879	19952	19635	19869	19821	20383	20735	21604	21715	22480
21.0	16667	16726	16115	16514	16565	16993	17313	18017	18055	18567
24.0	13516	13516	13135	13445	13540	13915	14017	14457	14529	14814
27.0	10414	10383	10510	10585	10592	10826	10979	11155	11519	11536
30.0	7517	7590	7888	8082	8032	8041	8051	8370	8675	8947
33.0	5033	5167	5589	6023	5925	5731	5636	5928	6265	6684
36.0	3240	3403	3720	4344	4228	4034	3869	4050	4343	4837
39.0	2209	2259	2572	3036	2945	2778	2704	2766	3083	3503
42.0	1593	1633	1842	2096	2100	1959	1922	1991	2198	2535
45.0	1256	1249	1368	1525	1573	1475	1433	1492	1583	1825
48.0	1125	1090	1096	1210	1248	1196	1154	1176	1250	1370
51.0	956.5	974.5	938.6	1005	1016	987.0	984.0	984.9	1044	1110
54.0	820.3	828.2	847.1	856.8	863.5	837.5	833.6	841.6	881.9	920.7
57.0	728.5	732.3	757.6	746.1	739.4	718.6	718.5	719.2	742.3	774.9
60.0	656.9	641.6	653.0	643.1	625.2	612.5	612.4	612.4	632.0	656.2
63.0	584.9	572.4	555.3	543.1	527.5	510.4	503.7	511.4	523.8	550.7
66.0	480.4	481.5	463.6	451.4	434.6	412.0	410.8	412.1	415.7	447.7
69.0	383.7	384.0	377.4	365.2	340.2	323.3	318.7	318.0	330.5	352.1
72.0	290.2	296.5	291.4	276.8	251.1	236.4	229.7	231.5	239.2	261.5
75.0	207.1	213.2	211.1	194.5	169.9	159.6	154.0	156.7	159.7	178.0
78.0	138.0	142.2	137.9	121.7	105.3	98.17	94.25	95.30	97.21	107.1
81.0	78.78	82.40	76.80	65.14	55.13	49.44	45.97	46.73	48.10	55.61
84.0	34.84	37.50	32.51	27.00	21.82	19.15	17.44	17.69	18.23	21.30
87.0	11.01	12.56	10.89	9.195	8.102	7.849	7.791	7.652	7.496	7.603
90.0	6.550	6.612	6.724	6.727	6.666	6.513	6.405	6.336	6.336	6.325
93.0	7.441	7.469	7.563	7.543	7.457	7.261	7.105	7.064	7.106	7.103
96.0	8.822	8.808	8.899	8.867	8.768	8.522	8.343	8.246	8.290	8.261
99.0	10.68	10.67	10.75	10.64	10.54	10.23	10.04	9.865	9.892	9.787
102.0	13.19	13.17	13.18	13.04	12.89	12.57	12.33	12.06	12.06	11.87
105.0	16.42	16.38	16.31	16.12	15.93	15.60	15.31	15.00	14.86	14.64
108.0	20.56	20.44	20.31	20.04	19.88	19.50	19.18	18.76	18.52	18.20
111.0	25.62	25.49	25.32	24.99	24.77	24.33	24.02	23.41	23.10	22.62
114.0	31.60	31.51	31.32	30.94	30.70	30.20	29.80	29.10	28.66	28.09
117.0	38.60	38.47	38.29	37.85	37.62	37.02	36.57	35.74	35.18	34.46
120.0	46.56	46.40	46.17	45.69	45.46	44.78	44.25	43.23	42.58	41.72
123.0	55.06	54.99	54.75	54.25	53.96	53.26	52.62	51.56	50.76	49.77
126.0	64.24	64.13	63.85	63.33	63.01	62.26	61.54	60.36	59.48	58.43
129.0	73.64	73.58	73.25	72.71	72.33	71.57	70.80	69.55	68.62	67.47
132.0	83.16	83.13	82.72	82.14	81.84	81.00	80.19	78.92	77.91	76.81
135.0	92.64	92.54	92.09	91.51	91.09	90.36	89.57	88.28	87.24	86.16
138.0	101.7	101.6	101.1	100.5	100.2	99.41	98.70	97.44	96.51	95.38
141.0	110.3	110.2	109.5	108.9	108.5	107.8	107.3	106.2	105.3	104.2
144.0	118.2	118.0	117.2	116.6	116.2	115.8	115.2	114.2	113.3	112.3
147.0	125.2	124.8	123.9	123.3	122.7	122.3	122.3	121.4	120.5	119.7
150.0	131.1	130.7	129.5	128.8	128.5	128.4	128.1	127.4	126.6	125.9
153.0	135.8	135.2	133.8	133.1	132.8	132.9	132.7	132.1	131.4	130.8
156.0	139.0	138.4	136.8	136.0	135.7	135.8	135.8	135.4	134.8	134.4
159.0	140.9	140.4	138.6	137.7	137.1	137.4	137.4	137.3	136.9	136.7
162.0	141.6	141.3	139.3	138.3	137.5	137.5	137.7	137.9	137.9	137.9
165.0	141.5	141.3	139.2	138.1	137.1	137.3	137.6	138.1	138.3	138.4
168.0	140.9	140.8	138.8	137.7	136.7	137.1	137.6	138.2	138.6	138.6
171.0	140.3	140.3	138.8	137.8	137.0	137.5	138.1	138.9	139.2	138.9
174.0	139.9	140.0	139.3	138.7	138.5	139.1	139.8	140.4	140.3	139.5
177.0	140.6	140.8	140.4	140.3	140.4	141.1	141.8	142.0	141.4	140.3
180.0	141.7	141.8	141.5	141.4	141.4	142.5	142.9	142.8	141.8	140.8
G/C	150.0	165.0	180.0	195.0	210.0	225.0	240.0	255.0	270.0	285.0
0.0	32532	32488	32707	32651	32614	32607	32581	32579	32566	32556
3.0	32557	32603	32965	32956	32905	32876	32825	32770	32663	32525
6.0	32198	32306	32703	32679	32650	32586	32451	32336	32219	31955
9.0	31031	31156	31596	31503	31478	31467	31432	31121	30879	30527
12.0	28917	29052	29532	29489	29634	29680	29616	29206	28778	28314
15.0	26069	26391	26914	26760	27104	26889	27089	26386	26121	25476
18.0	22500	22639	23270	23222	23468	23163	23376	22669	22604	21994
21.0	18496	18867	19415	19425	19303	19039	19315	18681	18762	18080
24.0	14809	15239	15543	15433	15412	15122	15335	14960	14987	14340
27.0	11689	11869	12087	12004	12025	11894	11798	11600	11447	11015
30.0	8971	8867	9068	8955	9166	9058	8845	8538	8334	8135

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_A45

Photometric Data Table [cd]

33.0	6663	6344	6489	6467	6742	6841	6511	6086	5850	5762
36.0	4776	4412	4280	4413	4817	5121	4770	4263	4014	3973
39.0	3331	2950	2726	2843	3393	3736	3454	2970	2773	2734
42.0	2355	1929	1832	1903	2341	2707	2491	2089	1965	1955
45.0	1699	1429	1424	1442	1669	1984	1857	1572	1484	1483
48.0	1310	1189	1245	1246	1304	1511	1447	1260	1188	1178
51.0	1050	1040	1039	1060	1091	1195	1152	1026	989.5	980.2
54.0	893.6	888.7	903.2	906.2	949.0	962.5	942.5	851.6	830.4	824.0
57.0	781.0	773.2	787.1	785.2	808.9	796.5	774.2	711.4	701.6	697.7
60.0	673.7	660.4	690.4	672.0	678.1	660.0	634.6	588.8	585.4	580.6
63.0	565.2	559.3	583.8	578.2	560.0	536.6	516.0	473.7	471.9	473.2
66.0	458.1	467.0	476.1	464.1	454.3	431.0	405.4	377.6	374.3	372.8
69.0	362.4	368.8	372.4	363.4	356.8	334.5	305.9	280.4	280.8	278.5
72.0	269.3	280.1	279.0	272.6	264.9	238.0	214.2	195.0	192.9	194.4
75.0	187.8	194.9	194.7	191.7	182.1	157.5	136.5	124.3	123.8	126.0
78.0	118.9	123.5	125.1	123.0	110.7	90.33	77.45	68.80	67.53	69.54
81.0	61.04	66.44	67.95	65.45	55.13	42.72	34.16	29.15	28.90	30.06
84.0	24.32	27.11	27.14	25.98	20.05	14.31	11.07	9.246	9.159	9.579
87.0	7.995	8.522	7.391	7.688	6.403	6.000	5.862	5.764	5.785	5.815
90.0	6.261	6.203	5.617	5.627	5.682	5.646	5.631	5.556	5.520	5.507
93.0	7.083	6.977	6.217	6.223	6.295	6.300	6.274	6.190	6.165	6.175
96.0	8.226	8.080	7.037	7.049	7.121	7.168	7.142	7.074	7.029	7.085
99.0	9.748	9.573	8.153	8.174	8.256	8.334	8.306	8.276	8.209	8.325
102.0	11.88	11.67	9.724	9.746	9.798	9.920	9.886	9.890	9.833	10.02
105.0	14.57	14.45	11.93	11.94	11.92	12.05	12.02	12.09	12.09	12.32
108.0	18.14	18.02	14.88	14.78	14.76	14.81	14.84	14.93	15.06	15.32
111.0	22.60	22.44	18.61	18.50	18.36	18.41	18.43	18.66	18.84	19.21
114.0	27.97	27.81	23.25	23.10	22.85	22.91	22.90	23.26	23.53	24.00
117.0	34.29	34.04	28.85	28.59	28.32	28.31	28.35	28.78	29.17	29.73
120.0	41.52	41.14	35.34	35.04	34.70	34.71	34.75	35.28	35.73	36.46
123.0	49.43	49.02	42.70	42.34	41.93	41.97	42.04	42.65	43.18	44.06
126.0	58.03	57.58	50.90	50.43	50.00	50.04	50.11	50.81	51.44	52.38
129.0	67.07	66.58	59.74	59.18	58.75	58.72	58.86	59.57	60.32	61.28
132.0	76.35	75.87	69.13	68.47	68.00	67.96	68.11	68.88	69.64	70.65
135.0	85.76	85.29	78.77	78.11	77.60	77.55	77.71	78.46	79.22	80.24
138.0	94.97	94.56	88.56	87.85	87.28	87.25	87.40	88.16	88.85	89.79
141.0	103.8	103.5	98.19	97.41	96.85	96.79	96.92	97.63	98.32	99.13
144.0	112.0	111.8	107.4	106.5	106.0	105.8	106.0	106.7	107.3	108.0
147.0	119.3	119.3	115.9	115.0	114.3	114.1	114.3	114.9	115.5	116.1
150.0	125.6	125.7	123.5	122.5	121.7	121.4	121.6	122.1	122.6	123.0
153.0	130.7	131.0	129.8	128.7	127.8	127.4	127.5	128.0	128.4	128.6
156.0	134.5	134.9	134.8	133.6	132.7	132.0	132.0	132.4	132.7	132.6
159.0	136.9	137.5	138.2	136.9	136.1	135.1	135.0	135.1	135.3	135.1
162.0	138.1	138.8	140.3	139.0	138.1	137.1	136.7	136.5	136.5	136.1
165.0	138.6	139.3	141.4	140.0	139.3	138.2	137.7	137.1	136.8	136.2
168.0	138.8	139.4	141.6	140.4	139.8	138.9	138.5	137.8	137.2	136.5
171.0	138.9	139.3	141.7	140.7	140.2	139.4	139.3	138.7	138.1	137.2
174.0	139.1	139.3	141.8	141.1	140.7	140.0	140.4	140.2	139.7	138.8
177.0	139.6	139.6	142.0	141.6	141.3	141.0	141.6	141.9	141.9	141.1
180.0	140.2	140.1	142.0	141.6	141.7	141.3	141.8	142.4	143.0	142.8
G/C	300.0	315.0	330.0	345.0						
0.0	32538	32557	32532	32488						
3.0	32351	32209	32059	31885						
6.0	31740	31429	31051	30599						
9.0	30324	29775	29184	28688						
12.0	28066	27340	27154	26313						
15.0	25096	24362	24186	23355						
18.0	21572	20908	20727	20025						
21.0	17765	17153	17037	16605						
24.0	14187	13549	13602	13531						
27.0	11010	10599	10595	10486						
30.0	8220	8038	8010	7675						
33.0	5911	5946	5803	5239						
36.0	4155	4261	4035	3527						
39.0	2970	3044	2734	2390						
42.0	2128	2215	1954	1673						
45.0	1567	1617	1459	1288						
48.0	1237	1233	1156	1070						
51.0	1024	1012	966.9	970.1						
54.0	856.1	850.7	831.7	838.9						
57.0	717.6	726.7	735.7	730.8						
60.0	606.4	614.7	643.4	632.4						
63.0	491.3	514.5	546.9	543.4						
66.0	385.9	417.1	442.6	466.4						

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

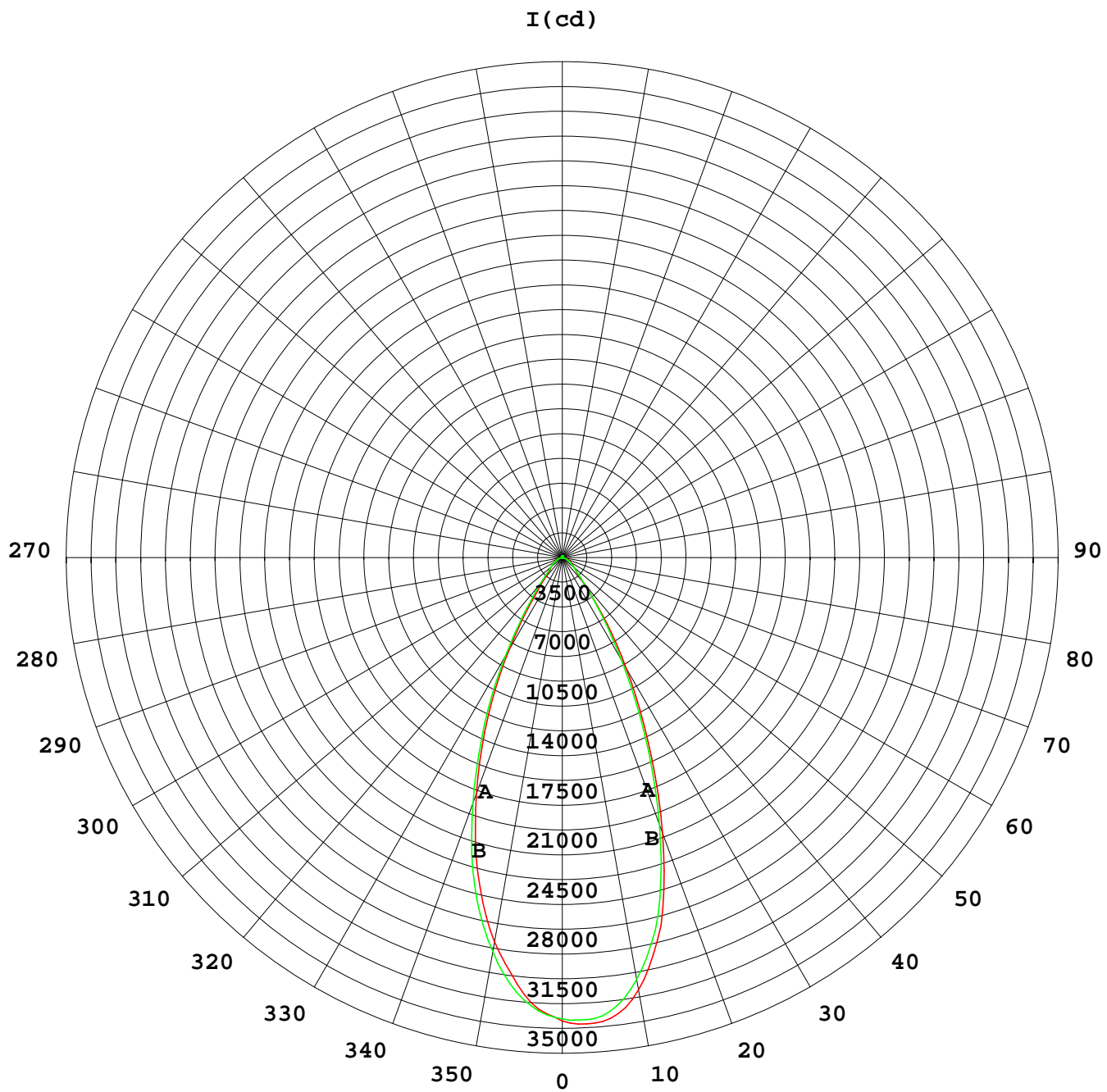
γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.351
Humidity: 65.0%
Test Distance: 8.100m [K=1.0000]
Remarks: NTB-150C_A45

Photometric Data Table [cd]

69.0	303.8	324.0	352.0	374.6
72.0	212.9	237.0	263.5	287.6
75.0	136.3	155.3	183.9	201.7
78.0	78.19	91.03	116.0	131.2
81.0	35.04	43.92	58.86	72.99
84.0	11.64	15.30	22.92	31.15
87.0	5.937	6.138	7.051	9.755
90.0	5.580	5.627	5.659	5.672
93.0	6.277	6.357	6.381	6.339
96.0	7.201	7.331	7.347	7.311
99.0	8.451	8.643	8.664	8.648
102.0	10.16	10.43	10.43	10.51
105.0	12.51	12.81	12.88	12.97
108.0	15.53	15.87	15.99	16.17
111.0	19.40	19.83	19.96	20.26
114.0	24.24	24.77	24.95	25.30
117.0	30.08	30.67	30.91	31.34
120.0	36.86	37.60	37.86	38.43
123.0	44.54	45.39	45.74	46.32
126.0	52.93	53.89	54.30	54.97
129.0	61.95	62.93	63.37	64.15
132.0	71.34	72.36	72.81	73.61
135.0	80.90	81.89	82.37	83.19
138.0	90.41	91.36	91.78	92.62
141.0	99.67	100.5	100.9	101.7
144.0	108.4	109.0	109.4	110.1
147.0	116.3	116.7	117.0	117.8
150.0	123.1	123.2	123.5	124.3
153.0	128.5	128.5	128.7	129.5
156.0	132.5	132.2	132.5	133.4
159.0	134.8	134.5	135.0	136.0
162.0	135.6	135.6	136.3	137.4
165.0	135.8	136.0	136.8	137.9
168.0	136.0	136.0	136.8	138.0
171.0	136.6	136.4	137.1	138.1
174.0	138.2	137.8	138.2	138.6
177.0	140.5	139.7	139.6	139.4
180.0	141.9	140.7	140.3	140.0

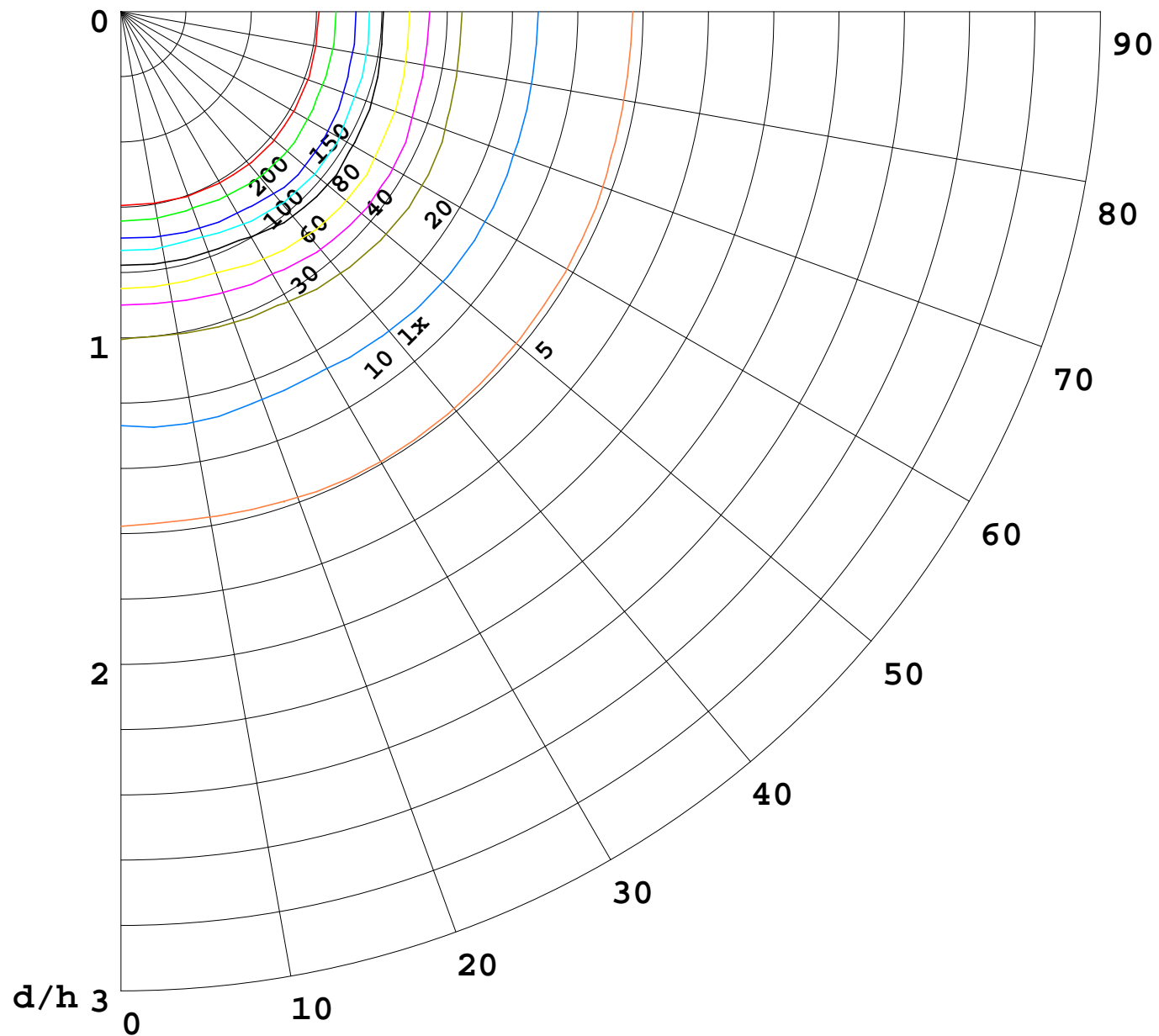
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: KAR
Test Date: 22 July 2021

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_A45



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

