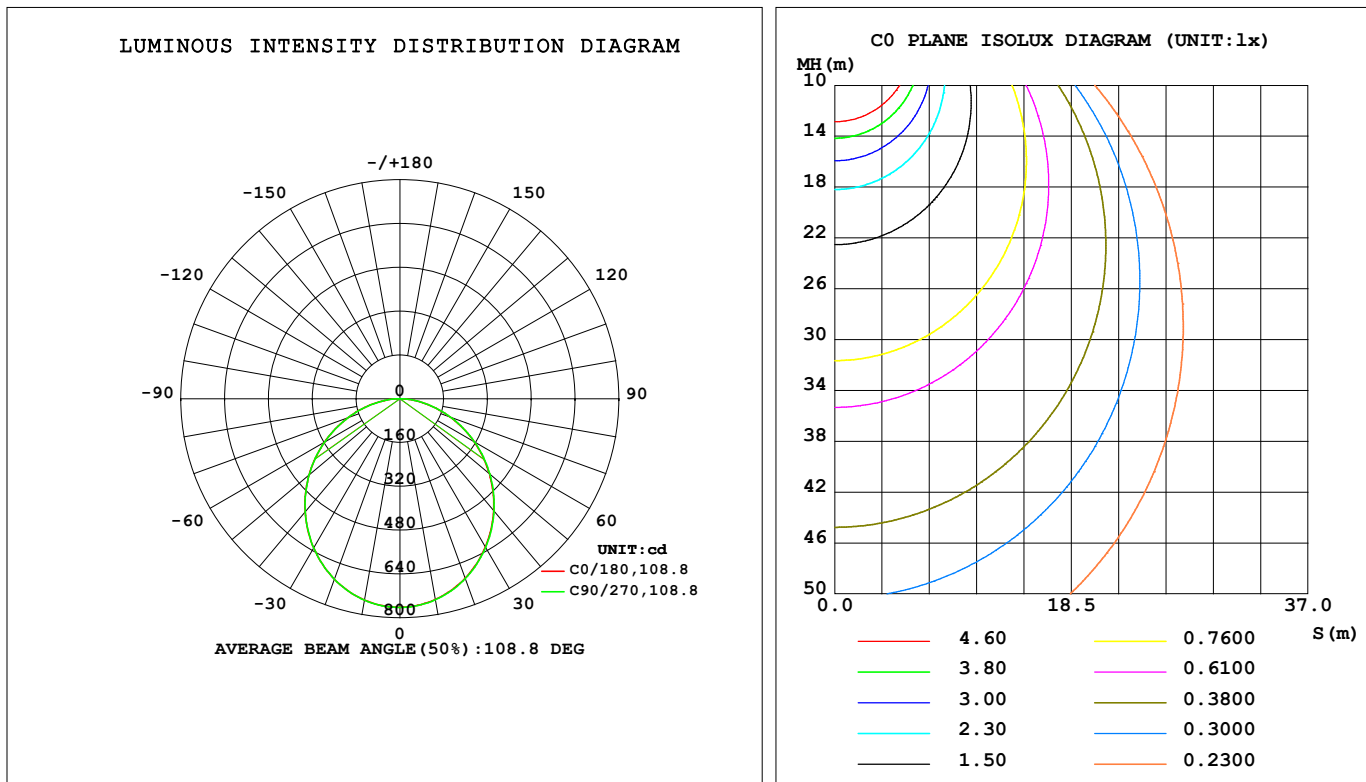


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 120.21 lm/W
MODEL: B15mm	4000lm 840 ADV4 EM	I _{max} (cd)	762.4	S/MH (C0/180)	1.24	
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.23	
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	2103.0	η UP, DN (C0-180)	0.0, 49.8	
NOMINAL FLUX (lm)	2102.98	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.2	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.35	



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JEFF
Test Date: 20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity: 65.0%
Test Distance: 7.250m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	744.4	743.8	745.7	747.2	746.7	747.8	747.0	744.9	0- 10	71.97	71.97	3.42,3.42
20	697.2	695.7	698.7	701.8	701.3	703.2	701.2	697.6	10- 20	204.8	276.8	13.2,13.2
30	624.5	622.4	626.3	630.4	630.1	632.7	629.8	624.9	20- 30	307.0	583.8	27.8,27.8
40	532.5	529.9	534.5	539.4	539.0	542.0	538.5	532.8	30- 40	365.2	949.0	45.1,45.1
50	426.9	424.0	428.7	434.1	433.8	437.1	433.1	426.9	40- 50	373.9	1323	62.9,62.9
60	312.6	309.2	314.1	319.9	319.4	322.7	318.6	312.6	50- 60	334.4	1657	78.8,78.8
70	195.2	191.6	196.3	202.3	201.7	204.6	200.7	195.4	60- 70	254.6	1912	90.9,90.9
80	83.99	80.65	84.70	90.25	89.57	91.92	88.23	83.73	70- 80	149.3	2061	98.98
90	1.219	1.229	1.222	1.946	1.583	2.319	1.332	1.279	80- 90	41.77	2103	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1138 lm

%lum = 54.1%

%lamp = 54.1%

Conical surface Flux(120deg): 1657.3 lm

%lum = 78.8%

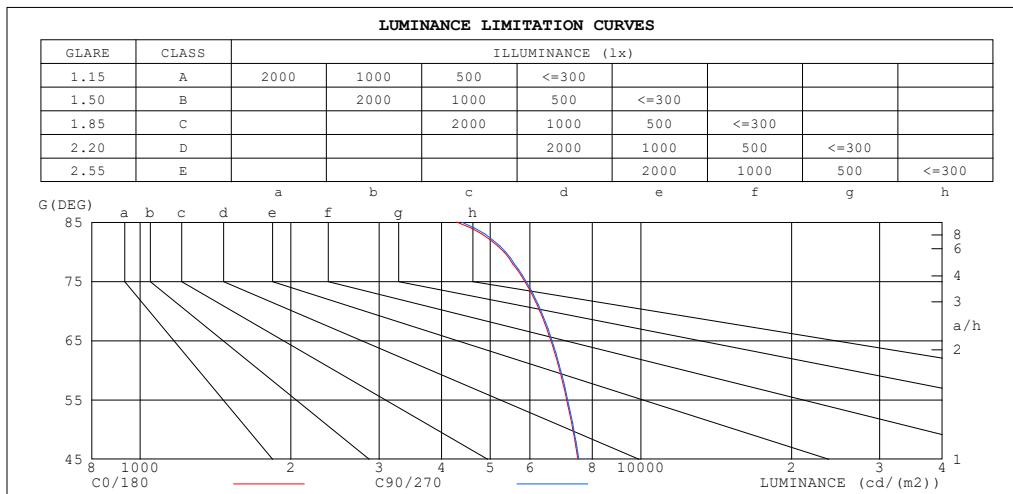
%lamp = 78.8%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4294	4390
80	5327	5372
75	5866	5898
70	6287	6320
65	6614	6646
60	6885	6919
55	7115	7147
50	7314	7345
45	7493	7524

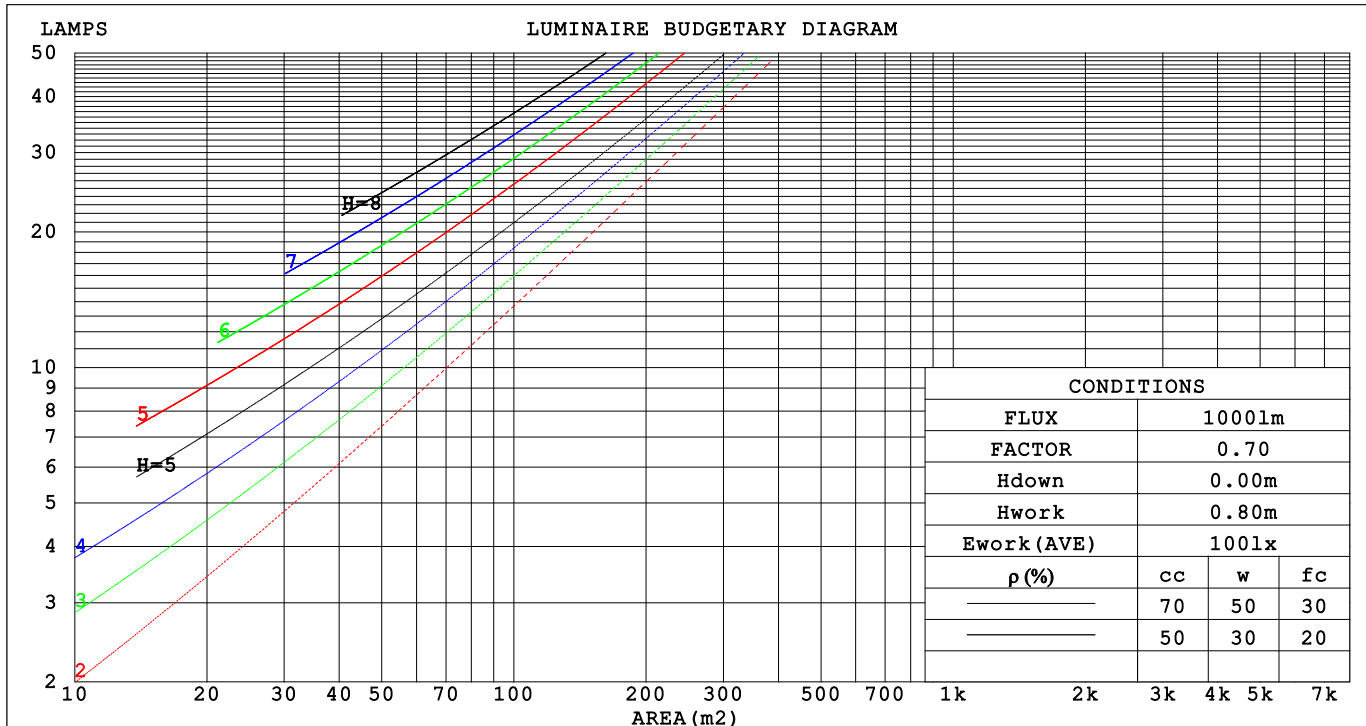
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.310	.176	.056	.303	.173	.055	.290	.166	.053	.278	.160	.051	.266	.154	.050	
2.0	.291	.160	.049	.285	.157	.048	.273	.152	.047	.263	.147	.046	.253	.143	.045	
3.0	.269	.143	.043	.264	.141	.043	.254	.137	.042	.244	.134	.041	.235	.130	.040	
4.0	.248	.129	.038	.244	.128	.038	.234	.124	.037	.226	.121	.037	.218	.118	.036	
5.0	.230	.117	.034	.225	.116	.034	.217	.113	.033	.210	.111	.033	.203	.108	.033	
6.0	.213	.107	.031	.209	.106	.030	.202	.103	.030	.195	.101	.030	.189	.099	.030	
7.0	.198	.098	.028	.195	.097	.028	.188	.095	.027	.182	.093	.027	.177	.092	.027	
8.0	.185	.090	.025	.182	.090	.025	.176	.088	.025	.171	.087	.025	.166	.085	.025	
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.076	.022	.152	.075	.021	.147	.074	.021	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.134	.154	.134	.116	.106	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.074	.141	.099	.064	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm											
NAME: PORT C_WHT_HE_GEN 4_4K_500mA					TYPE:LED			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: DARKON					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	17.0	18.5	17.3	18.7	18.9	17.0	18.5	17.3	18.7	18.9	
3H	18.5	19.9	18.8	20.1	20.4	18.5	19.9	18.8	20.2	20.4	
4H	19.1	20.4	19.4	20.7	21.0	19.1	20.5	19.4	20.7	21.0	
6H	19.6	20.8	19.9	21.1	21.4	19.6	20.8	19.9	21.1	21.4	
8H	19.7	20.9	20.0	21.2	21.5	19.7	20.9	20.1	21.2	21.5	
12H	19.8	20.9	20.1	21.2	21.5	19.8	21.0	20.2	21.3	21.6	
4H 2H	17.6	18.9	17.9	19.2	19.4	17.6	18.9	17.9	19.2	19.4	
3H	19.3	20.5	19.6	20.7	21.0	19.3	20.5	19.6	20.8	21.1	
4H	20.0	21.1	20.4	21.4	21.7	20.0	21.1	20.4	21.4	21.8	
6H	20.6	21.5	21.0	21.9	22.3	20.6	21.6	21.0	21.9	22.3	
8H	20.8	21.7	21.2	22.0	22.4	20.8	21.7	21.2	22.1	22.4	
12H	20.9	21.7	21.3	22.1	22.5	20.9	21.7	21.3	22.1	22.5	
8H 4H	20.3	21.2	20.7	21.5	21.9	20.3	21.2	20.7	21.5	21.9	
6H	21.0	21.7	21.4	22.1	22.6	21.0	21.7	21.5	22.2	22.6	
8H	21.3	21.9	21.7	22.3	22.8	21.3	21.9	21.7	22.4	22.8	
12H	21.4	22.0	21.9	22.5	22.9	21.5	22.0	22.0	22.5	23.0	
12H 4H	20.3	21.1	20.7	21.5	21.9	20.3	21.1	20.7	21.5	21.9	
6H	21.0	21.7	21.5	22.1	22.6	21.1	21.7	21.5	22.1	22.6	
8H	21.4	21.9	21.8	22.4	22.8	21.4	21.9	21.9	22.4	22.9	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2					

CIE Pub.117, 2103 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.6)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

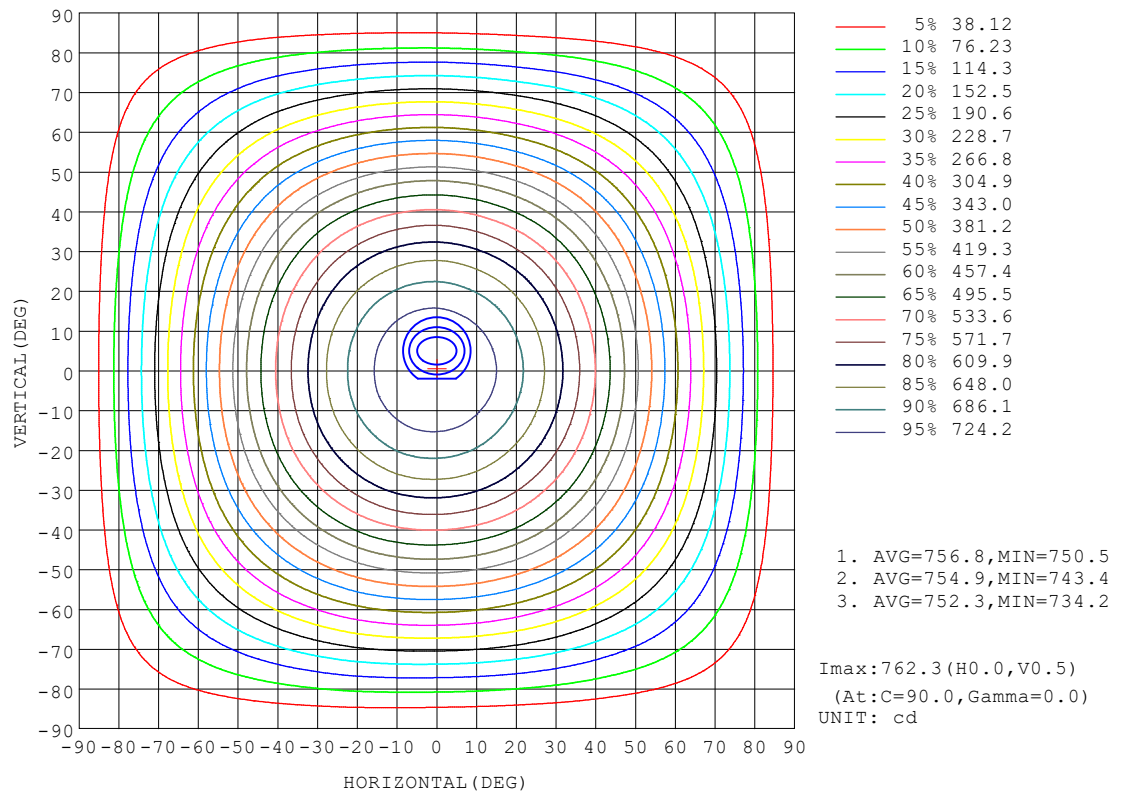
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	46	39	33
0.80	68	56	49	67	56	49	65	55	48	41
1.00	76	65	58	75	65	58	73	66	57	50
1.25	83	73	66	82	72	65	79	71	64	57
1.50	88	78	71	87	77	71	84	76	70	62
2.00	95	86	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	87	78
4.00	106	101	96	104	99	95	100	95	92	83
5.00	109	104	100	106	102	98	102	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

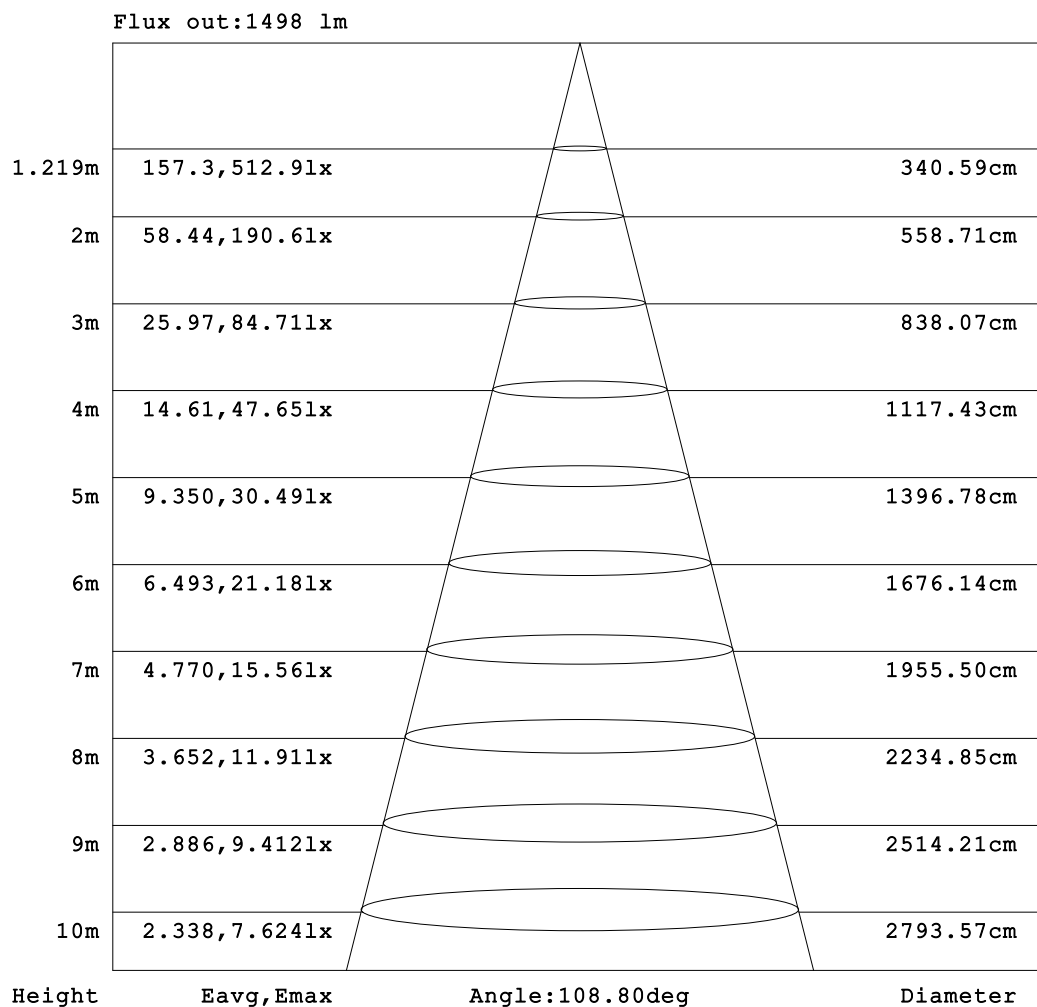


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



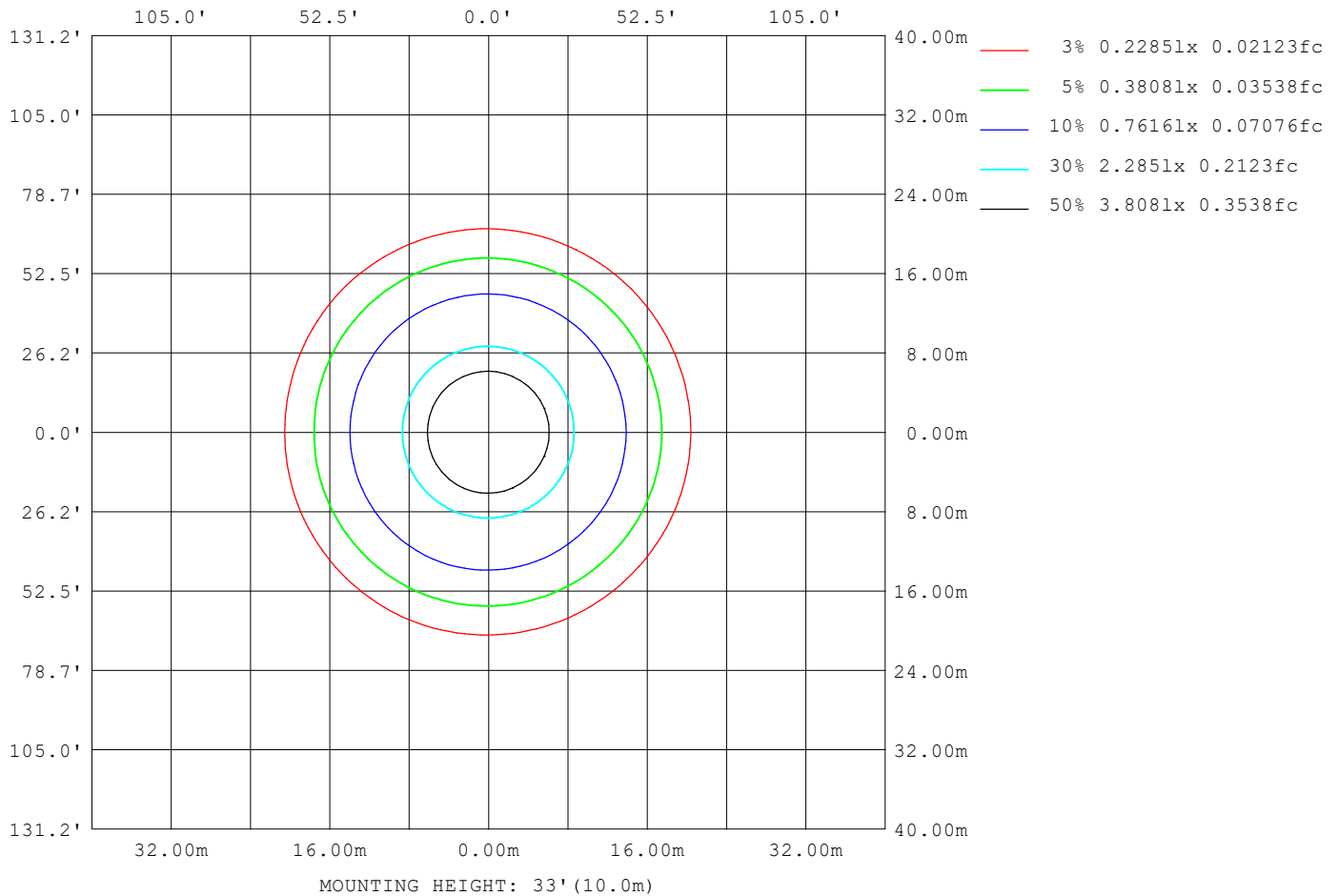
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:240.07V I:0.0838A P:17.494W PF:0.8696 Freq:50.09Hz Lamp Flux:2102.98x1 lm		
NAME: PORT C_WHT_HE_GEN 4_4K_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

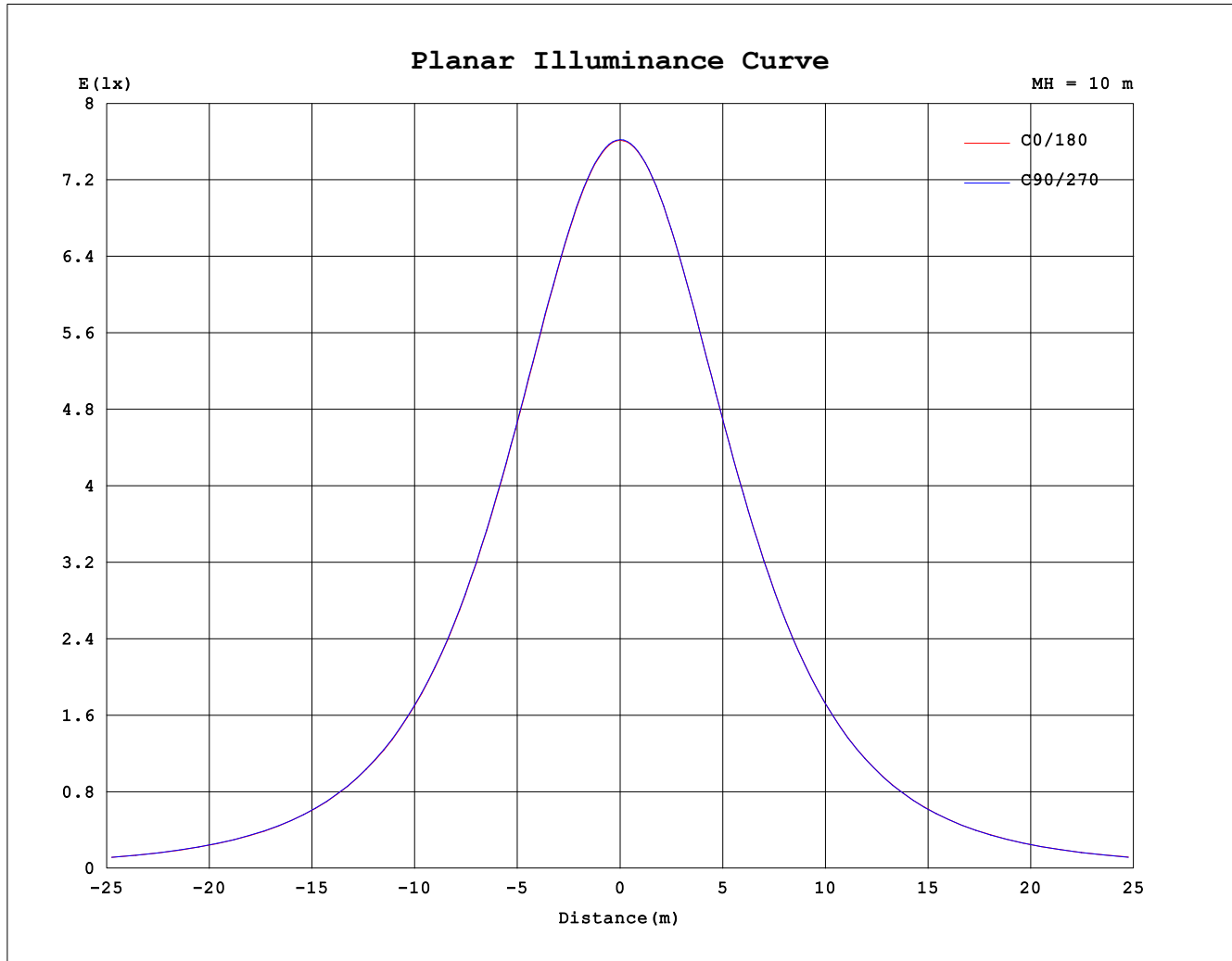
AvgL	cd/m2
L_0~180 (65) av	6702
L_0~180 (75) av	6008
L_0~180 (85) av	4597
L_90~270 (65) av	6704
L_90~270 (75) av	5998
L_90~270 (85) av	4572
L_45 (65) av	6702
L_45 (75) av	6005
L_45 (85) av	4586

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:20 August 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JEFF
Test Date: 20 August 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity: 65.0%
Test Distance: 7.250m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

```