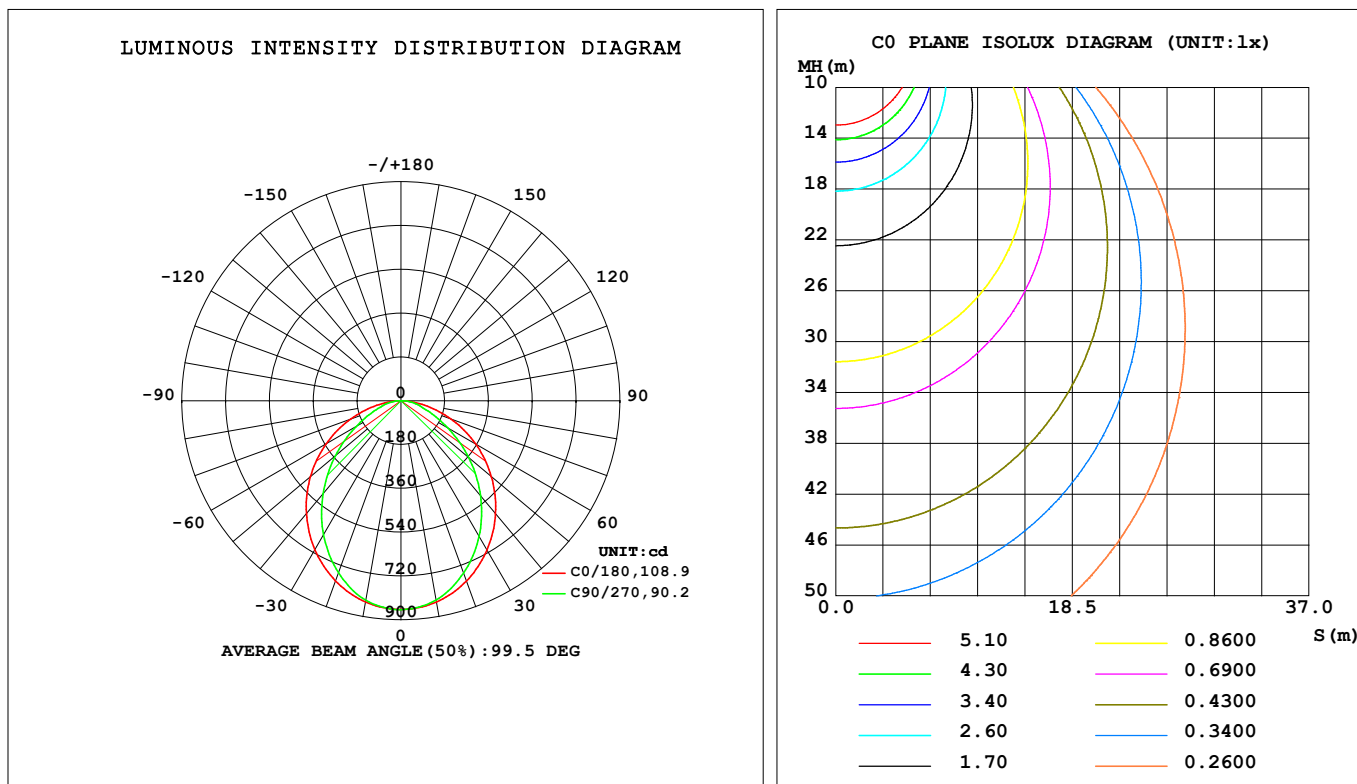


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_500	MA TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 80.27 lm/W
IMC024x280mm	650lm 830 HV ADV5	I _{max} (cd)	859.7	S/MH (C0/180)	1.23	
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.12	
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	2063.2	η UP,DN (C0-180)	0.0,50.2	
NOMINAL FLUX (lm)	2063.18	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,49.8	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.30	



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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	839.9	834.4	831.6	834.5	839.5	837.8	832.5	837.0	0- 10	80.86	80.86	3.92,3.92
20	788.2	767.9	753.2	768.8	787.6	773.5	751.5	771.8	10- 20	227.7	308.5	15,15
30	707.7	668.6	643.1	669.2	707.1	672.4	636.3	671.4	20- 30	333.6	642.1	31.1,31.1
40	604.8	548.9	509.4	549.3	604.5	550.3	498.1	549.7	30- 40	384.0	1026	49.7,49.7
50	485.3	414.8	364.0	415.2	485.7	414.1	351.5	413.2	40- 50	374.5	1401	67.9,67.9
60	354.4	273.4	222.2	275.2	355.8	272.7	213.5	270.6	50- 60	311.4	1712	83,83
70	217.6	138.5	111.4	141.9	219.8	140.8	108.7	137.1	60- 70	211.9	1924	93.2,93.2
80	88.72	52.73	52.45	55.87	90.91	54.29	50.19	51.37	70- 80	108.5	2032	98.5,98.5
90	1.304	0.9779	1.247	2.902	1.539	1.257	0.8831	1.025	80- 90	30.75	2063	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): 1218.1 lm

%lum = 59.0%

%lamp = 59.0%

Conical surface Flux(120deg): 1712 lm

%lum = 83.0%

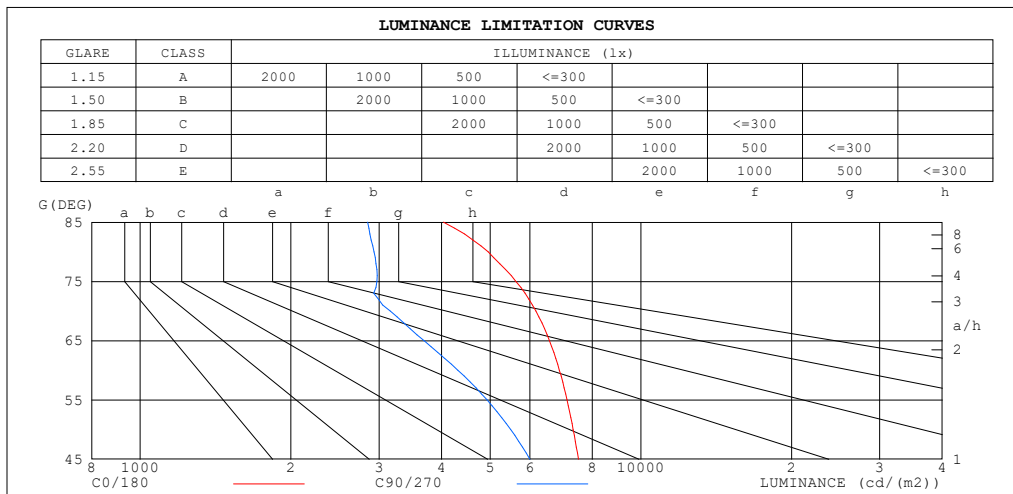
%lamp = 83.0%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4037	2845
80	4958	2931
75	5632	2970
70	6175	3161
65	6572	3691
60	6878	4312
55	7125	4928
50	7326	5495
45	7505	6003

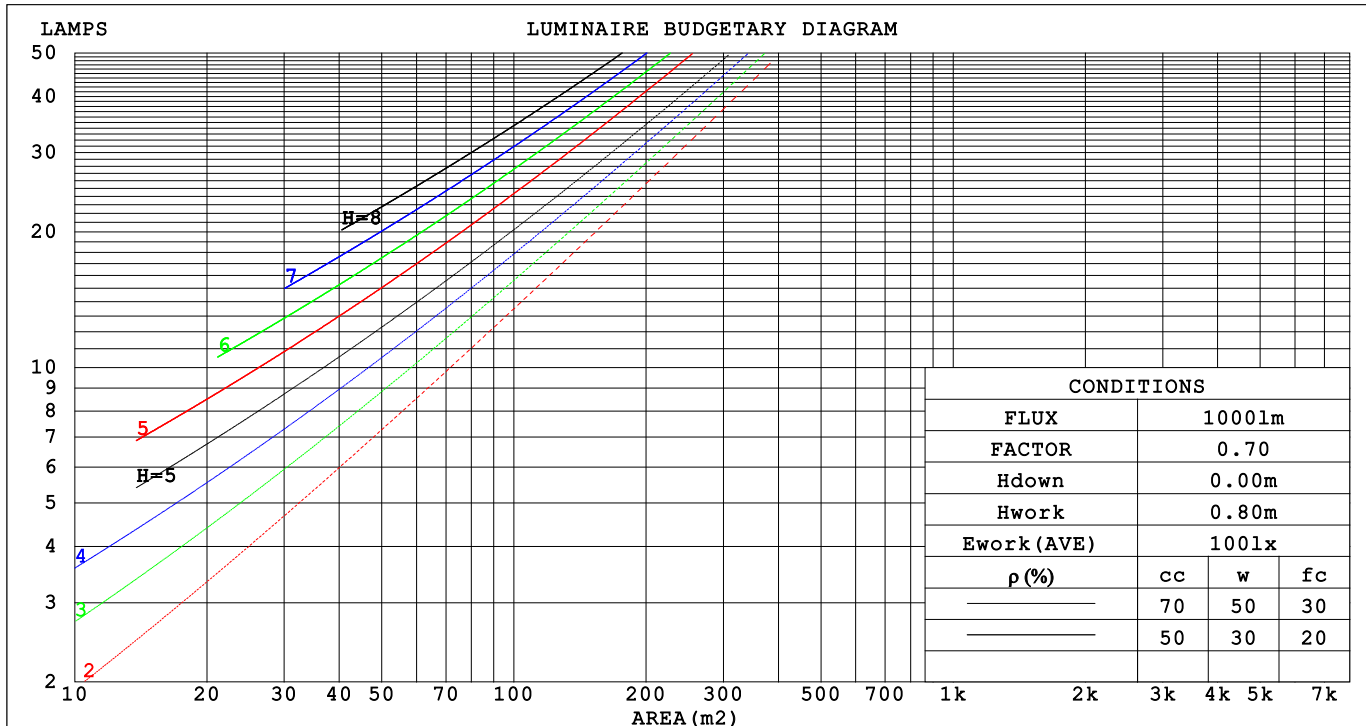
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_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						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.05	1.01	.97	1.03	.99	.96	.98	.95	.93	.95	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.80	.90	.85	.79	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.74	.69	.65	.72	.67	.64	.62
4.0	.73	.64	.58	.71	.64	.58	.69	.62	.57	.67	.61	.56	.65	.59	.55	.53
5.0	.65	.57	.50	.64	.56	.50	.62	.55	.49	.60	.54	.49	.58	.53	.48	.46
6.0	.59	.50	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.47	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.43	.39	.49	.43	.38	.36
8.0	.49	.41	.35	.48	.41	.35	.47	.40	.35	.46	.39	.35	.45	.39	.34	.33
9.0	.45	.37	.32	.45	.37	.32	.44	.37	.32	.42	.36	.31	.41	.36	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.39	.33	.29	.27



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_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	.289	.164	.052	.282	.161	.051	.268	.154	.049	.256	.148	.047	.245	.142	.046	
2.0	.274	.150	.046	.268	.147	.045	.256	.142	.044	.245	.138	.043	.236	.133	.042	
3.0	.255	.136	.041	.250	.134	.040	.240	.130	.039	.230	.126	.039	.222	.123	.038	
4.0	.237	.123	.036	.232	.122	.036	.223	.118	.035	.215	.115	.035	.207	.113	.034	
5.0	.220	.112	.033	.216	.111	.032	.208	.108	.032	.201	.106	.032	.194	.104	.031	
6.0	.205	.103	.029	.202	.102	.029	.194	.100	.029	.188	.098	.029	.182	.096	.028	
7.0	.192	.095	.027	.188	.094	.027	.182	.092	.027	.176	.090	.026	.171	.089	.026	
8.0	.180	.088	.025	.177	.087	.025	.171	.085	.024	.166	.084	.024	.161	.082	.024	
9.0	.169	.082	.023	.166	.081	.023	.161	.080	.023	.156	.078	.022	.152	.077	.022	
10.0	.159	.076	.021	.157	.076	.021	.152	.075	.021	.148	.073	.021	.144	.072	.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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.145	.114	.087	.100	.079	.060	.057	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.126	.069	.029	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.036	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm											
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_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	17.2	18.6	17.5	18.8	19.0	15.4	16.8	15.6	17.0	17.2	
3H	18.7	20.0	19.0	20.2	20.5	16.2	17.6	16.5	17.8	18.0	
4H	19.3	20.5	19.6	20.8	21.0	16.5	17.8	16.8	18.0	18.3	
6H	19.6	20.8	20.0	21.1	21.4	16.8	18.0	17.2	18.3	18.6	
8H	19.8	20.9	20.1	21.2	21.5	16.9	18.1	17.3	18.4	18.7	
12H	19.8	20.9	20.2	21.2	21.5	17.0	18.1	17.4	18.4	18.7	
4H 2H	17.5	18.8	17.8	19.0	19.3	16.0	17.3	16.3	17.5	17.8	
3H	19.1	20.3	19.5	20.5	20.8	17.0	18.1	17.3	18.4	18.7	
4H	19.8	20.8	20.2	21.2	21.5	17.4	18.4	17.8	18.7	19.1	
6H	20.3	21.2	20.7	21.6	21.9	17.8	18.7	18.2	19.0	19.4	
8H	20.5	21.3	20.9	21.7	22.1	18.0	18.8	18.4	19.2	19.6	
12H	20.6	21.4	21.0	21.8	22.2	18.1	18.9	18.5	19.2	19.7	
8H 4H	19.9	20.7	20.3	21.1	21.5	17.6	18.5	18.1	18.8	19.2	
6H	20.5	21.2	20.9	21.6	22.0	18.2	18.9	18.6	19.3	19.7	
8H	20.7	21.3	21.2	21.7	22.2	18.4	19.0	18.9	19.5	19.9	
12H	20.9	21.4	21.4	21.9	22.3	18.6	19.2	19.1	19.6	20.1	
12H 4H	19.9	20.6	20.3	21.0	21.4	17.7	18.4	18.1	18.8	19.2	
6H	20.5	21.1	20.9	21.5	22.0	18.2	18.9	18.7	19.3	19.7	
8H	20.7	21.3	21.2	21.7	22.2	18.5	19.1	19.0	19.5	20.0	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.3 / - 0.4					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.6					

CIE Pub.117, 2063 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.5)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

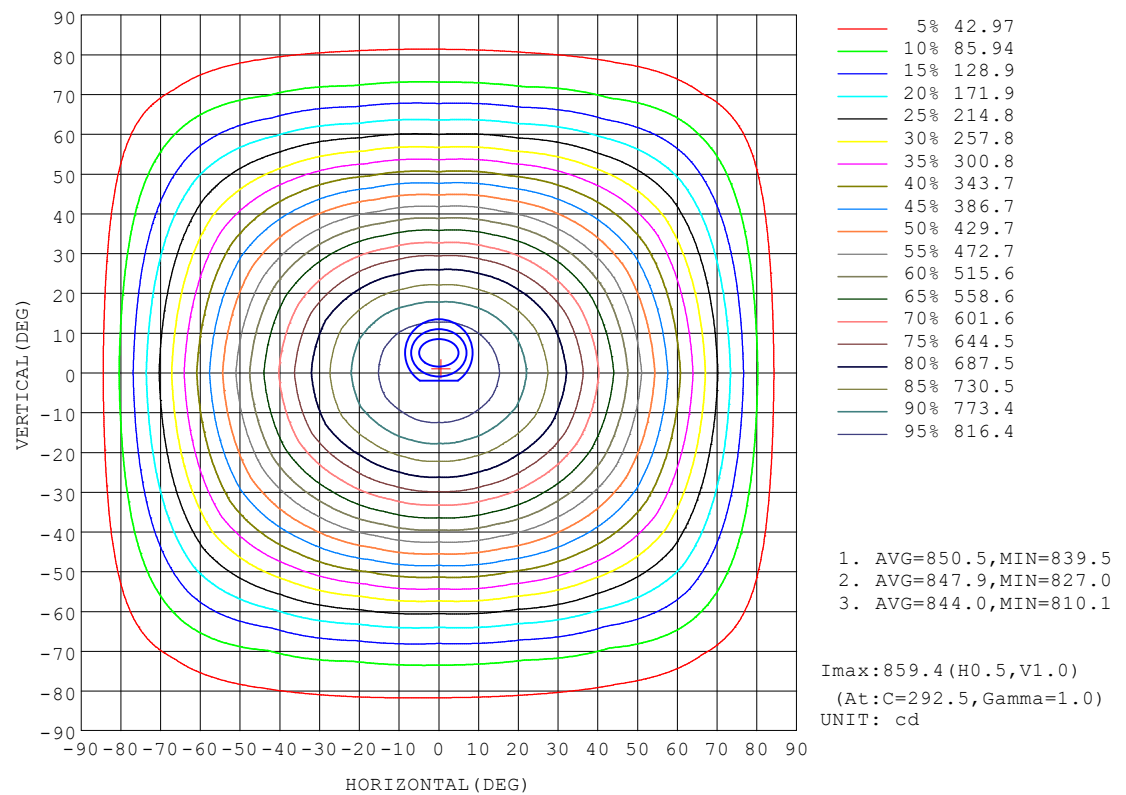
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	60	49	43	60	49	42	59	49	42	36
0.80	70	59	52	69	59	52	68	58	52	45
1.00	79	68	61	78	68	61	75	69	61	54
1.25	86	76	69	84	75	69	82	74	68	61
1.50	90	81	75	89	80	74	86	79	73	66
2.00	97	89	83	95	88	82	92	86	81	73
2.50	100	93	88	98	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	99	97	88
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:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

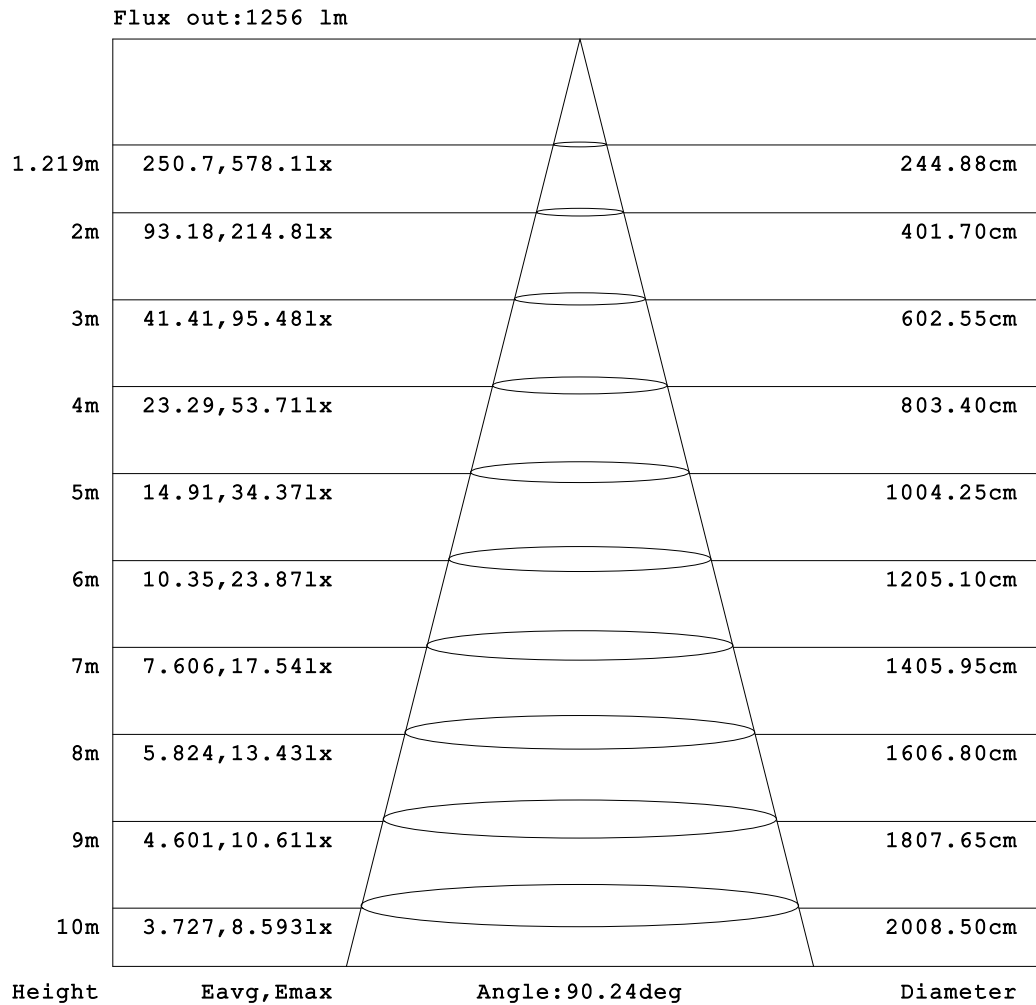


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



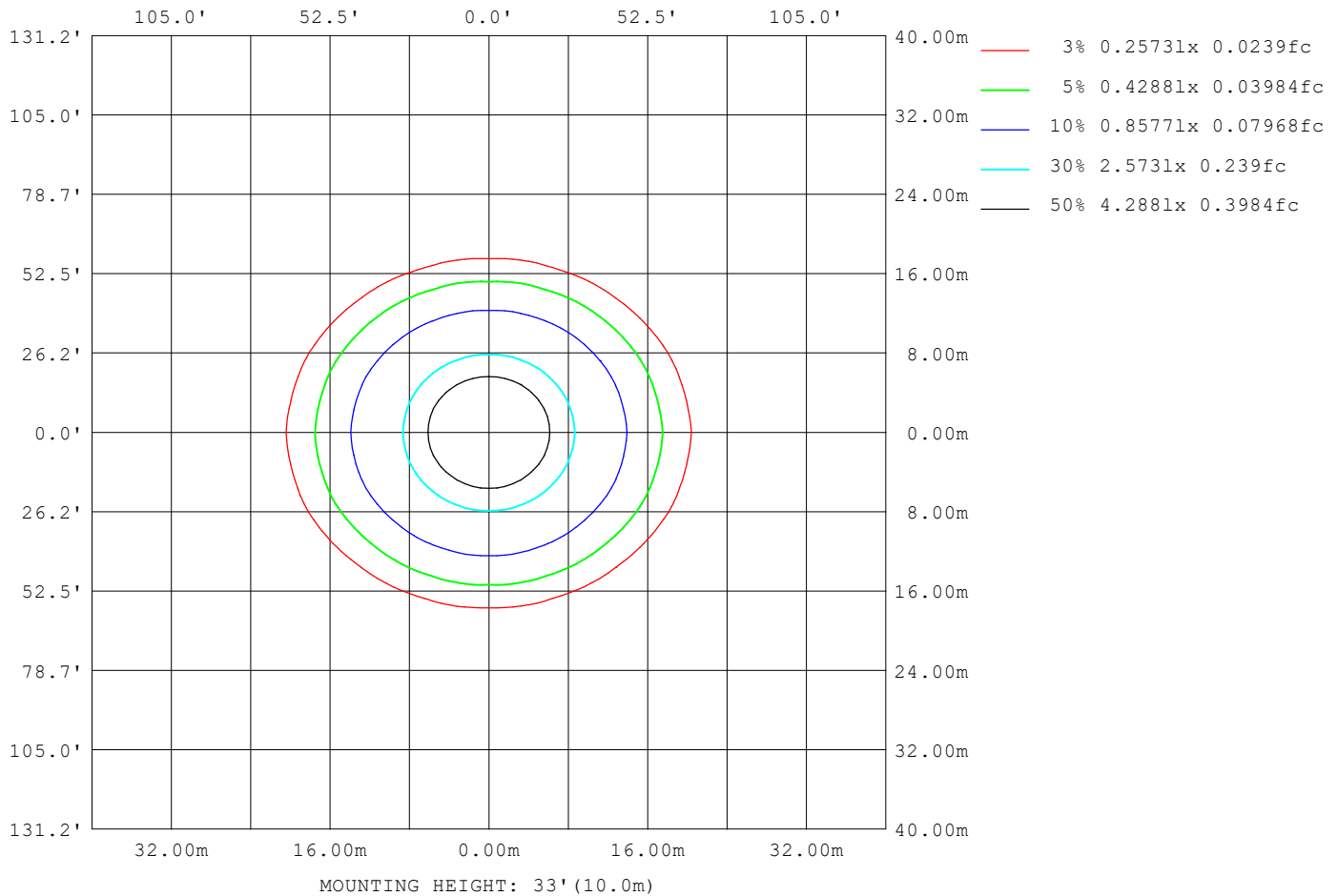
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JEFF
Test Date: 24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_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:24 December 2019

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:239.94V I:0.1140A P:25.702W PF:0.9398 Freq:50.09Hz Lamp Flux:2063.18x1 lm		
NAME: MRS T REC LENS_1165_NA_WHT_OPAL V_LT60_HE_500mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

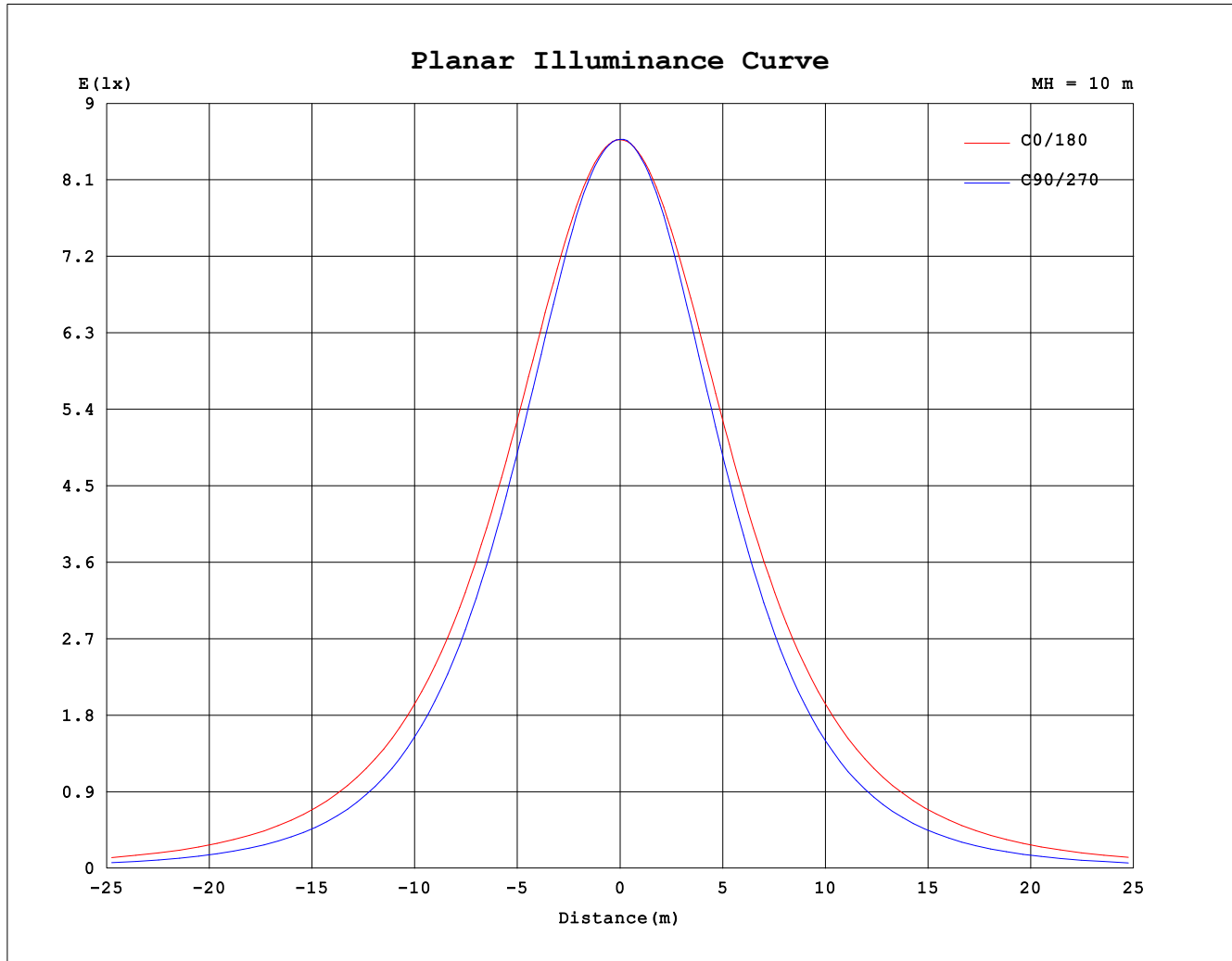
AvgL	cd/m2
L_0~180 (65) av	6591
L_0~180 (75) av	5688
L_0~180 (85) av	4110
L_90~270 (65) av	3629
L_90~270 (75) av	2932
L_90~270 (85) av	2732
L_45 (65) av	4676
L_45 (75) av	3263
L_45 (85) av	2863

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:24 December 2019

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: 24 December 2019

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:

```