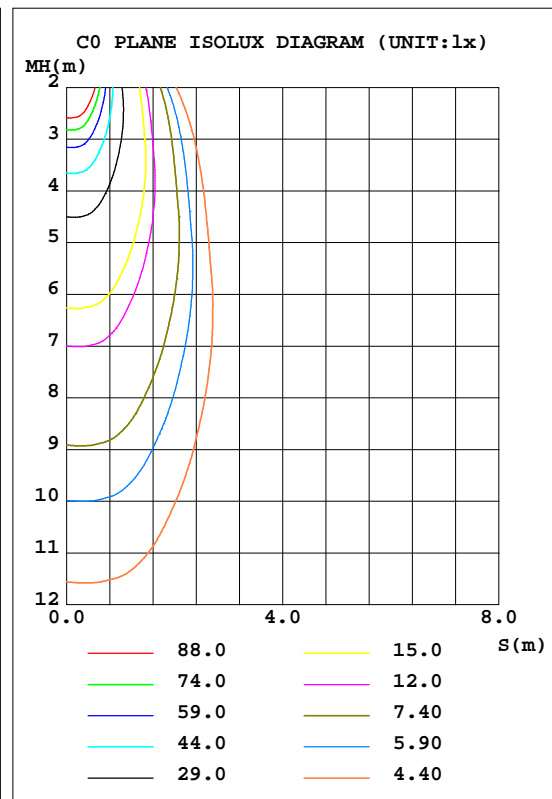
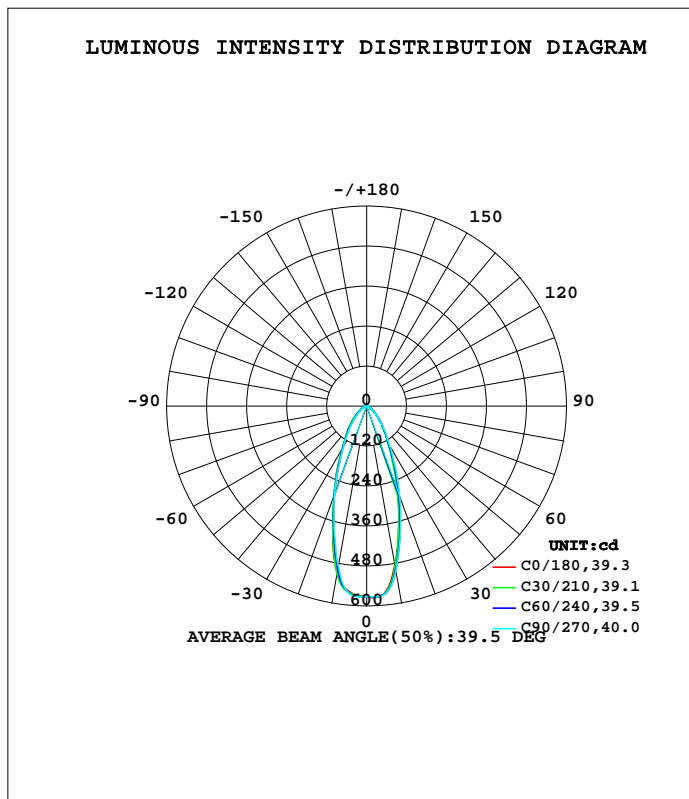


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		I <sub>max</sub> (cd)	576.0	S/MH(C0/180)	0.64
NOMINAL POWER(W)	--	LOR(%)	100.0	S/MH(C90/270)	0.63
RATED VOLTAGE(V)	--	TOTAL FLUX(lm)	391.71	η UP, DN(C0-180)	0.0,49.2
NOMINAL FLUX(lm)	391.707	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	--	η down(%)	100.0	CIBSE SHR MAX	0.65



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2022-04-09

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
 Humidity:65.0%  
 Test Distance:9.000m [K=1.0000]  
 Remarks:

**ZONAL FLUX DIAGRAM**

**ZONAL FLUX DIAGRAM:**

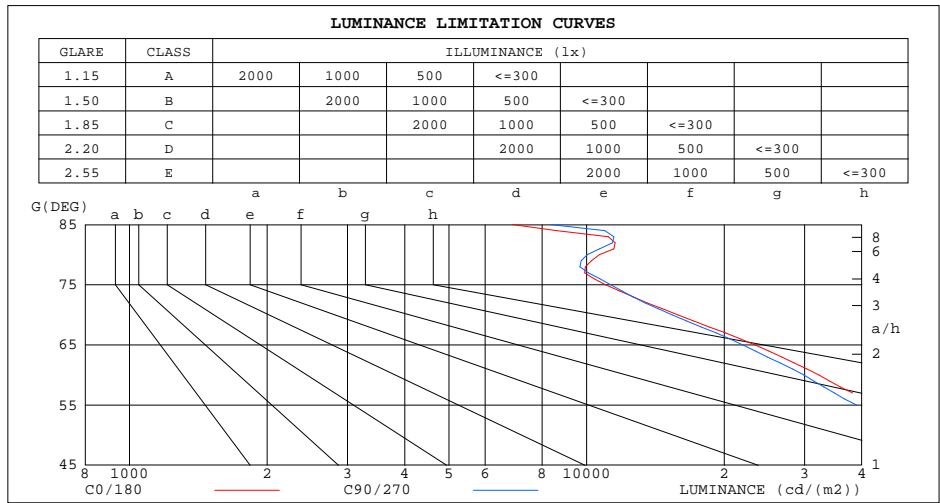
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	\$lum,lamp
10	486.5	497.5	504.2	502.6	512.2	506.1	489.6	505.8	0- 10	52.11	52.11	13.3,13.3
20	274.5	274.3	291.7	275.6	287.4	282.9	283.4	281.4	10- 20	106.4	158.5	40.5,40.5
30	132.1	131.6	140.5	136.0	147.7	143.3	139.9	137.4	20- 30	91.50	250.0	63.8,63.8
40	71.15	69.22	71.45	73.79	82.23	77.29	71.91	72.71	30- 40	63.45	313.5	80,80
50	35.15	34.39	33.66	37.41	42.22	40.06	33.06	37.06	40- 50	41.03	354.5	90.5,90.5
60	15.69	16.08	15.02	17.65	18.90	18.66	14.47	17.36	50- 60	22.68	377.2	96.3,96.3
70	5.266	5.509	5.288	5.906	6.288	6.193	4.642	5.998	60- 70	10.38	387.6	98.9,98.9
80	1.802	1.789	1.751	1.726	1.739	1.659	1.621	1.784	70- 80	3.303	390.9	99.8,99.8
90	0.0007	0	0	0	0.0130	0.0125	0.0127	0.0144	80- 90	0.8466	391.7	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		

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
Humidity:65.0%  
Test Distance:9.000m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	6887	8350
80	10673	10029
75	11010	11297
70	15831	15380
65	23355	21961
60	32269	29878
55	42427	39036
50	56229	52080
45	74247	69993

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2022-04-09

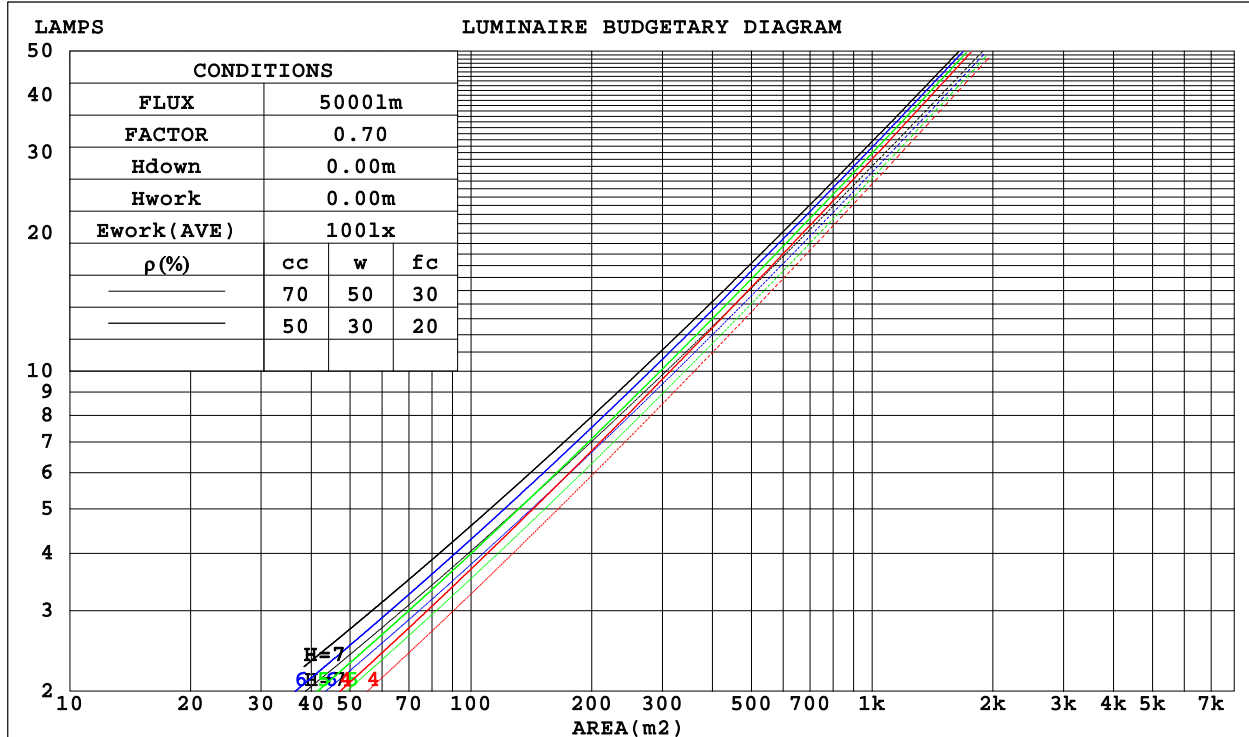
γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
 Humidity:65.0%  
 Test Distance:9.000m [K=1.0000]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

ImageObject Trial Version

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	.00	.00	.98	.97	.96	.95	.94	.92
2.0	1.01	.97	.93	.99	.95	.92	.96	.93	.90	.93	.90	.88	.90	.88	.86	.84
3.0	.94	.88	.84	.92	.87	.83	.90	.85	.82	.87	.84	.81	.85	.82	.79	.78
4.0	.87	.81	.76	.86	.80	.76	.84	.79	.75	.82	.77	.74	.80	.76	.73	.72
5.0	.81	.75	.70	.80	.74	.70	.78	.73	.69	.77	.72	.69	.75	.71	.68	.66
6.0	.76	.70	.65	.75	.69	.65	.74	.68	.64	.72	.67	.64	.71	.67	.63	.62
7.0	.71	.65	.60	.71	.65	.60	.69	.64	.60	.68	.63	.60	.67	.63	.59	.58
8.0	.67	.61	.57	.67	.61	.56	.65	.60	.56	.64	.60	.56	.63	.59	.56	.54
9.0	.63	.57	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.53	.51
10.0	.60	.54	.50	.60	.54	.50	.59	.54	.50	.58	.53	.50	.57	.53	.50	.48



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2022-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
 Humidity:65.0%  
 Test Distance:9.000m [K=1.0000]  
 Remarks:

**WEC AND CCEC**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	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	.196	.112	.035	.189	.108	.034	.177	.101	.032	.165	.095	.031	.154	.089	.029	
2.0	.188	.103	.032	.183	.101	.031	.172	.096	.030	.162	.091	.028	.153	.086	.027	
3.0	.179	.095	.028	.174	.093	.028	.164	.089	.027	.156	.085	.026	.148	.082	.025	
4.0	.169	.088	.026	.165	.086	.025	.157	.083	.025	.149	.080	.024	.142	.077	.024	
5.0	.160	.081	.024	.156	.080	.023	.149	.078	.023	.142	.075	.022	.136	.073	.022	
6.0	.151	.076	.022	.148	.075	.021	.142	.073	.021	.136	.071	.021	.131	.069	.020	
7.0	.143	.071	.020	.140	.070	.020	.135	.068	.020	.130	.067	.019	.125	.065	.019	
8.0	.136	.067	.019	.134	.066	.019	.129	.064	.018	.124	.063	.018	.120	.062	.018	
9.0	.130	.063	.017	.127	.062	.017	.123	.061	.017	.119	.060	.017	.115	.058	.017	
10.0	.124	.059	.016	.121	.059	.016	.118	.058	.016	.114	.057	.016	.110	.055	.016	

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	.172	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.050	.019	.017	.016	
2.0	.158	.132	.111	.136	.114	.096	.093	.079	.067	.054	.046	.039	.017	.015	.013	
3.0	.147	.114	.087	.126	.098	.076	.086	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.137	.099	.070	.118	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.129	.088	.058	.110	.076	.050	.076	.053	.035	.044	.031	.021	.014	.010	.007	
6.0	.121	.079	.048	.104	.068	.042	.072	.048	.030	.042	.028	.018	.013	.009	.006	
7.0	.114	.071	.041	.098	.062	.036	.068	.043	.025	.040	.025	.015	.013	.008	.005	
8.0	.109	.065	.035	.093	.056	.031	.065	.040	.022	.038	.023	.013	.012	.008	.004	
9.0	.103	.060	.030	.089	.052	.027	.062	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.098	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2022-04-09

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
 Humidity:65.0%  
 Test Distance:9.000m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm										
NAME: 486745-MR16-4W-2700K-40°					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:35mm			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	23.4	24.4	23.6	24.6	24.8	23.2	24.2	23.4	24.4	24.6
3H	23.6	24.5	23.9	24.8	25.0	23.4	24.3	23.7	24.5	24.7
4H	23.6	24.5	23.9	24.7	25.0	23.4	24.3	23.7	24.5	24.8
6H	23.6	24.4	23.9	24.7	24.9	23.4	24.2	23.7	24.5	24.7
8H	23.6	24.4	23.9	24.6	24.9	23.4	24.2	23.7	24.4	24.7
12H	23.5	24.3	23.9	24.6	24.9	23.4	24.1	23.7	24.4	24.7
4H 2H	23.5	24.4	23.8	24.6	24.8	23.3	24.2	23.6	24.4	24.6
3H	23.7	24.5	24.1	24.8	25.1	23.6	24.3	23.9	24.6	24.9
4H	23.8	24.5	24.1	24.8	25.1	23.6	24.3	23.9	24.6	24.9
6H	23.8	24.4	24.2	24.7	25.1	23.6	24.2	24.0	24.6	24.9
8H	23.8	24.4	24.2	24.7	25.1	23.6	24.2	24.0	24.6	24.9
12H	23.8	24.3	24.2	24.7	25.1	23.6	24.2	24.1	24.5	24.9
8H 4H	23.7	24.3	24.1	24.6	25.0	23.5	24.1	23.9	24.5	24.8
6H	23.8	24.2	24.2	24.6	25.1	23.6	24.1	24.0	24.5	24.9
8H	23.8	24.2	24.3	24.7	25.1	23.7	24.1	24.1	24.5	24.9
12H	23.8	24.2	24.3	24.6	25.1	23.7	24.0	24.2	24.5	25.0
12H 4H	23.7	24.2	24.1	24.6	25.0	23.5	24.0	23.9	24.4	24.8
6H	23.7	24.2	24.2	24.6	25.0	23.6	24.0	24.0	24.4	24.9
8H	23.8	24.2	24.3	24.6	25.1	23.7	24.0	24.1	24.5	24.9
Variations with the observer position at spacings:										
S = 1.0H	+ 1.1 / - 1.6					+ 1.2 / - 1.7				
1.5H	+ 1.3 / - 0.9					+ 1.3 / - 1.0				
2.0H	+ 2.2 / - 1.9					+ 2.3 / - 1.9				

CIE Pub.117, 391.7 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -3.3)  
Area: 0.001 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-04-09

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
Humidity:65.0%  
Test Distance:9.000m [K=1.0000]  
Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

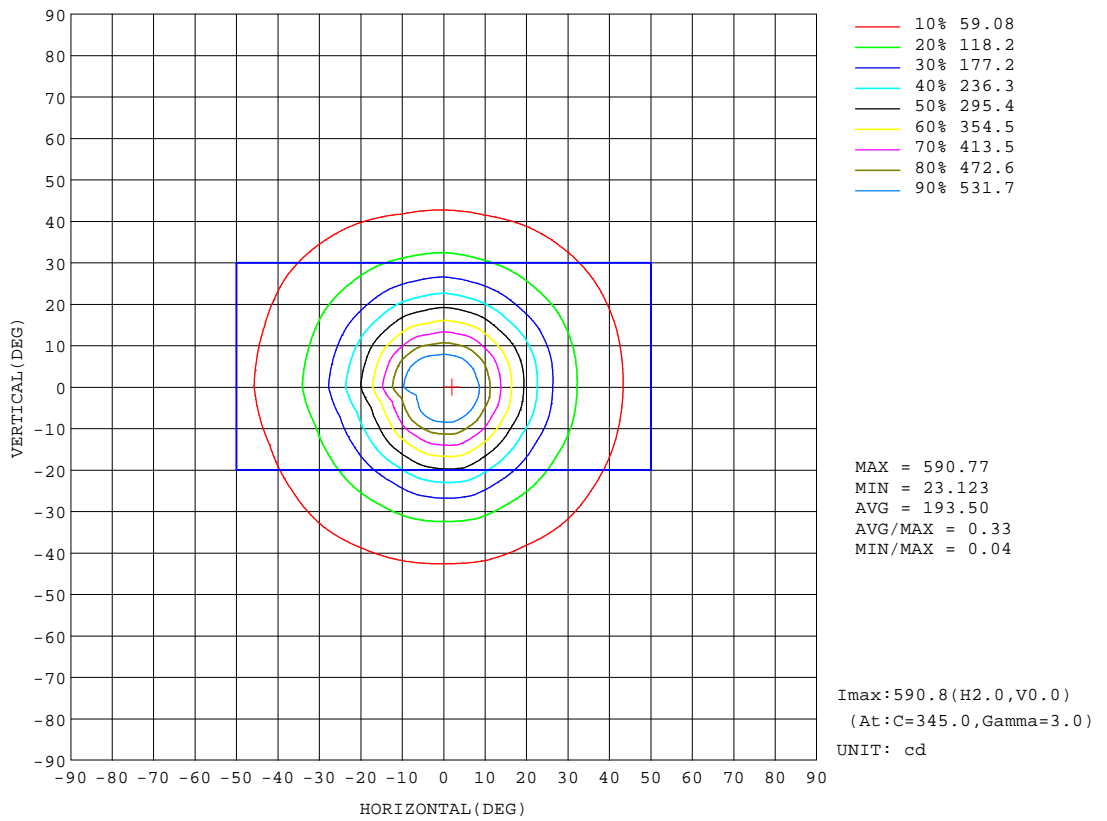
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	79	71	66	78	71	66	77	70	66	62
0.80	87	80	75	87	80	75	85	79	75	70
1.00	93	86	82	92	86	82	91	86	81	76
1.25	98	92	88	97	91	87	95	90	86	81
1.50	102	96	92	100	95	91	98	93	90	85
2.00	106	100	97	104	99	96	101	97	94	88
2.50	108	103	99	106	102	98	103	99	97	90
3.00	110	106	102	108	104	101	104	101	99	92
4.00	112	109	106	110	107	105	106	104	102	94
5.00	114	111	108	111	109	107	107	105	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:DAMIN  
Test Date:2022-04-09

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
Humidity:65.0%  
Test Distance:9.000m [K=1.0000]  
Remarks:

**ISOCANDELA DIAGRAM**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2022-04-09

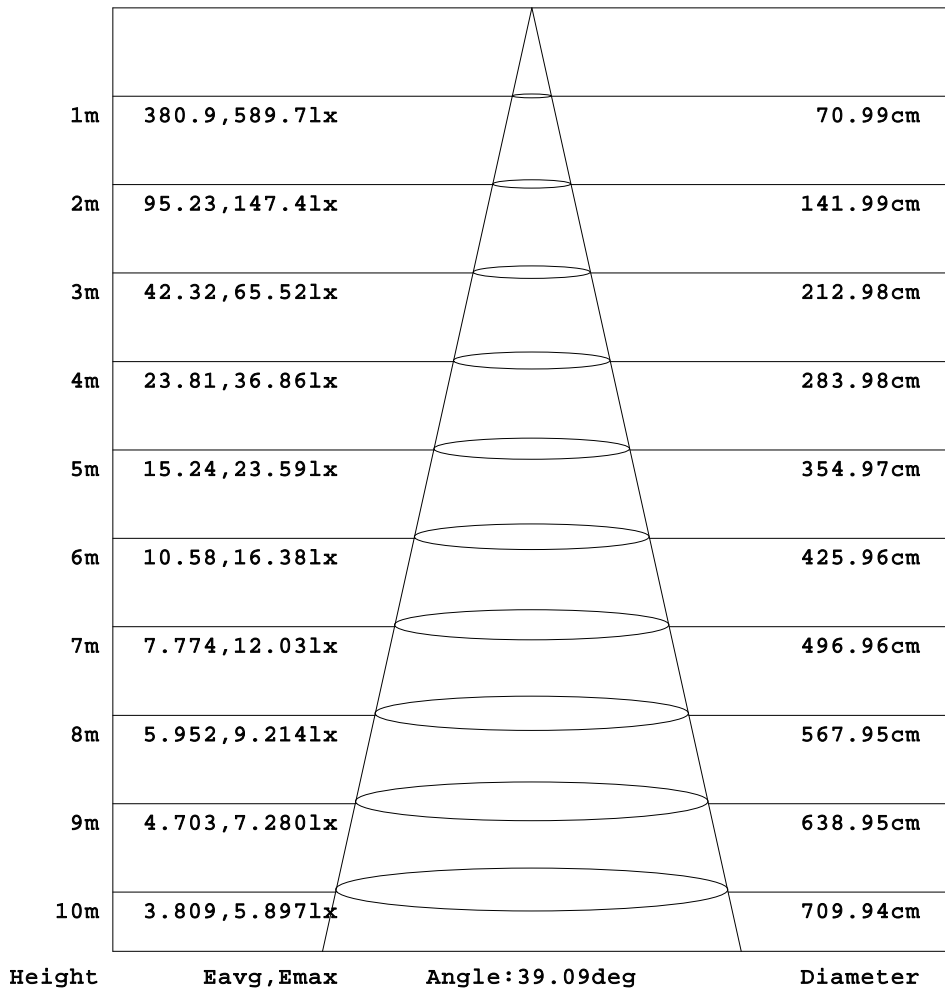
γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
 Humidity:65.0%  
 Test Distance:9.000m [K=1.0000]  
 Remarks:



**AAI Figure**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

Flux out:158.5 lm



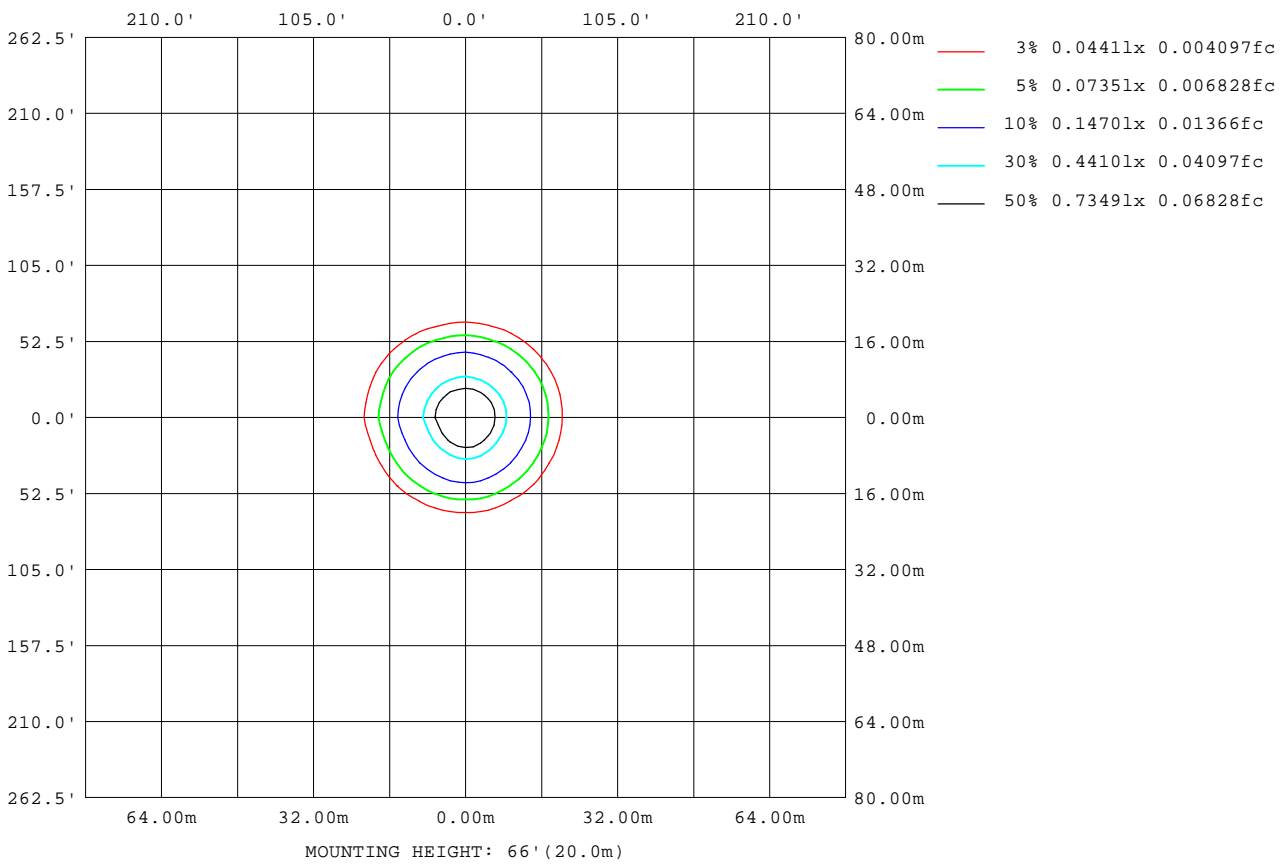
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-04-09

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
Humidity:65.0%  
Test Distance:9.000m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-04-09

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
Humidity:65.0%  
Test Distance:9.000m [K=1.0000]  
Remarks:

**LED Avg.L Report**

Test:U:11.933V I:0.5069A P:4.3101W PF:0.7125 Freq:60.00Hz Lamp Flux:391.707x1 lm		
NAME: 486745-MR16-4W-2700K-40°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

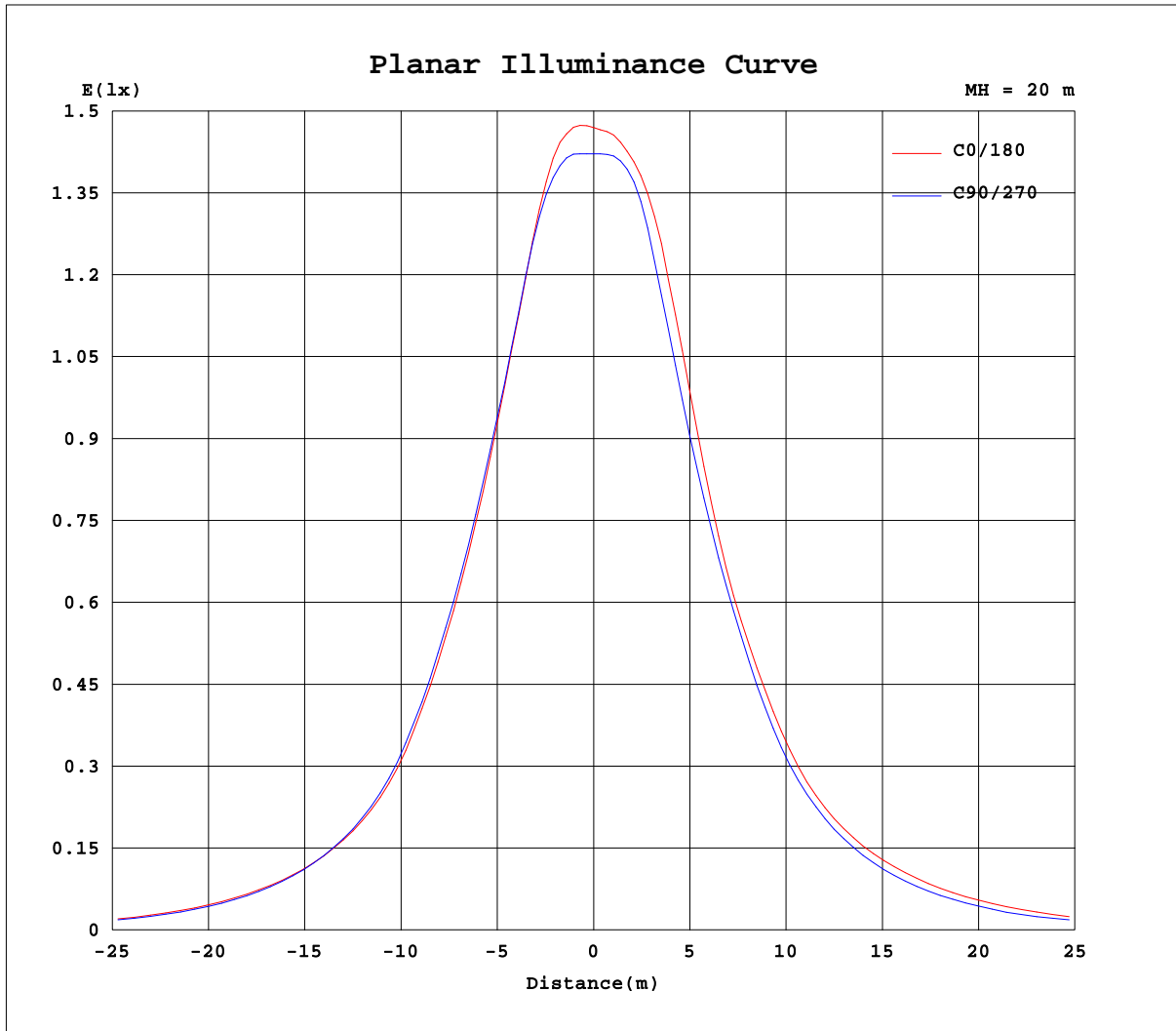
AvgL	cd/m2
L_0~180(65)av	25155
L_0~180(75)av	11310
L_0~180(85)av	7930
L_90~270(65)av	21317
L_90~270(75)av	10580
L_90~270(85)av	8205
L_45(65)av	25404
L_45(75)av	11375
L_45(85)av	7797

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMIN  
Test Date:2022-04-09

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
Humidity:65.0%  
Test Distance:9.000m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMIN  
Test Date: 2022-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-3000H\_V1 SYSTEM V2.00.411  
Humidity: 65.0%  
Test Distance: 9.000m [K=1.0000]  
Remarks:



