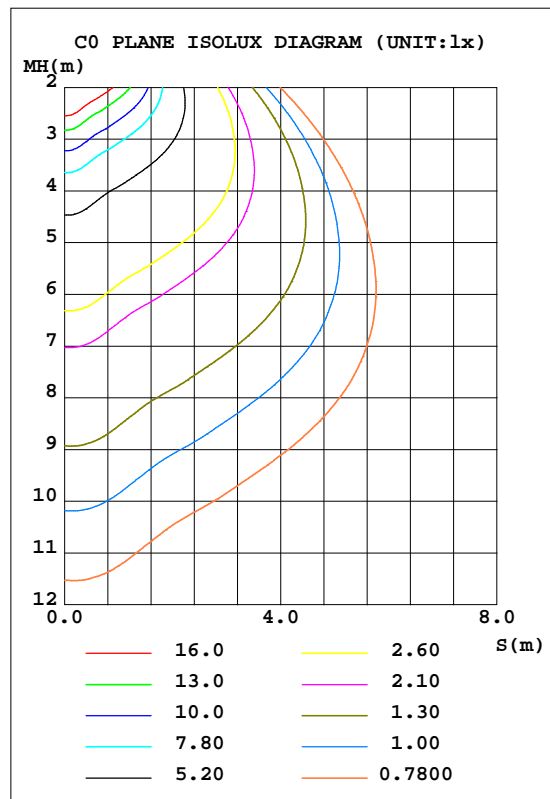
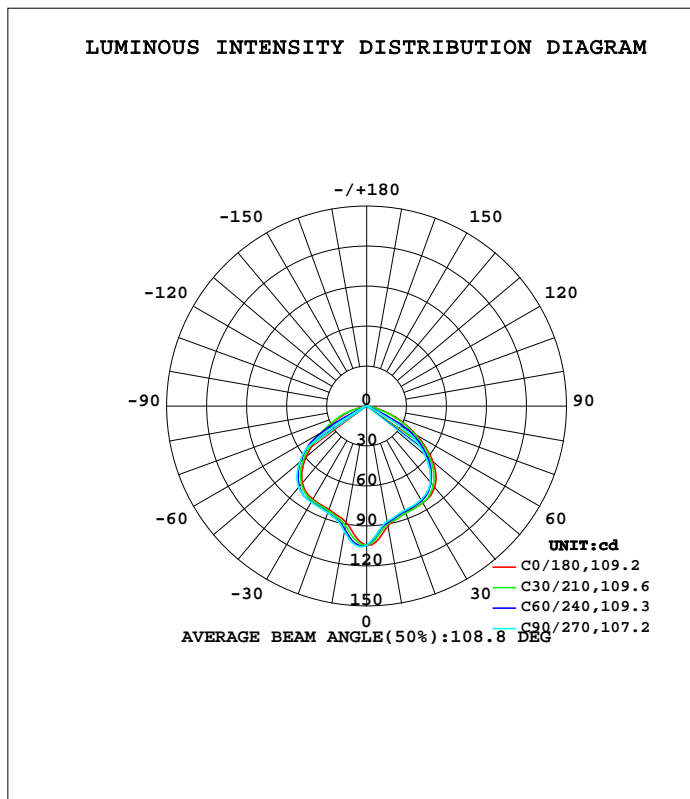


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 105.88 lm/W			
MODEL		I _{max} (cd)	105.7	S/MH(C0/180)	1.17
NOMINAL POWER(W)	--	LOR(%)	100.0	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	--	TOTAL FLUX(lm)	247.76	η UP, DN(C0-180)	0.0,48.7
NOMINAL FLUX(lm)	247.765	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,51.3
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	--	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2022-05-30

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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	91.64	89.78	88.05	87.02	88.84	91.91	95.83	94.45	0- 10	9.204	9.204	3.71,3.71
20	85.51	84.83	83.36	82.27	82.79	83.60	85.48	85.32	10- 20	24.49	33.70	13.6,13.6
30	84.03	83.19	81.28	80.31	80.85	81.76	83.36	83.63	20- 30	38.47	72.17	29.1,29.1
40	79.45	76.46	74.39	72.64	75.29	77.15	79.45	79.59	30- 40	50.31	122.5	49.4,49.4
50	64.84	61.44	57.00	56.25	59.42	62.85	65.77	67.30	40- 50	54.13	176.6	71.3,71.3
60	42.36	38.47	21.59	33.23	36.25	40.83	19.92	45.75	50- 60	44.89	221.5	89.4,89.4
70	21.18	8.977	2.747	9.806	17.34	4.065	3.119	14.94	60- 70	20.78	242.3	97.8,97.8
80	1.826	0.4377	0.4266	0.2496	1.408	0.5941	0.0596	1.081	70- 80	5.210	247.5	99.9,99.9
90	0.0157	0	0	0	0.0352	0.0202	0.0045	0.0192	80- 90	0.2652	247.8	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): 149.8 lm

%lum = 60.5%
%lamp = 60.5%

Conical surface Flux(120deg): 221.51 lm

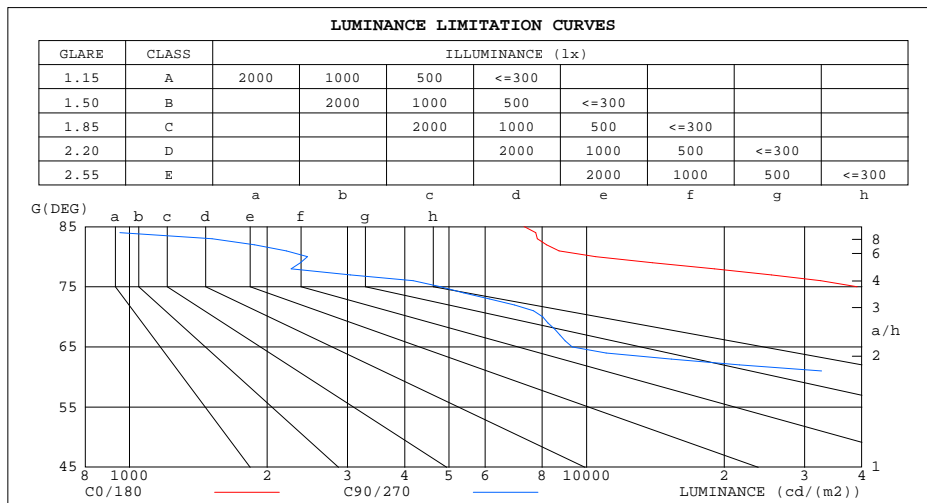
%lum = 89.4%
%lamp = 89.4%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2022-05-30

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:

LUMINANCE LIMITATION CURVES

Test:U:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	7303	1
80	10457	2452
75	39075	4791
70	61584	8018
65	73678	9308
60	84267	43109
55	93645	79522
50	100332	88528
45	103526	94428

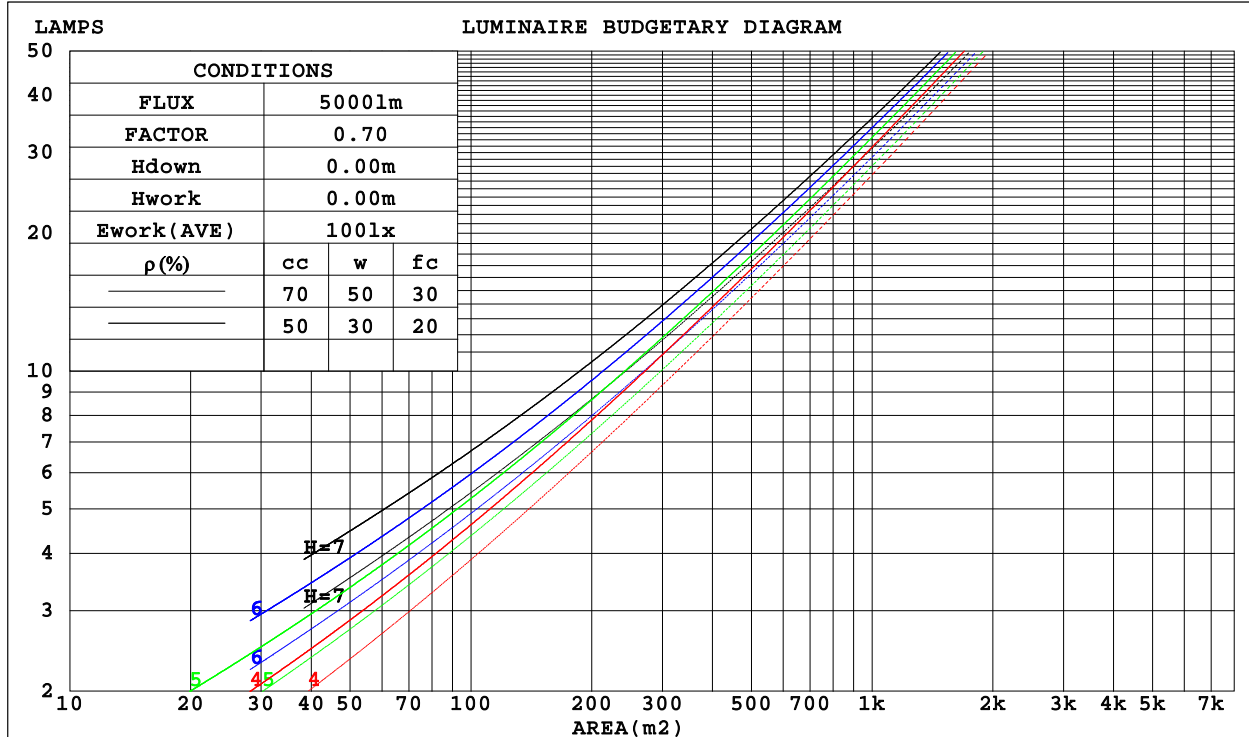
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2022-05-30

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

Test:U:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	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	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.06	1.03	.00	1.04	1.01	.98	1.00	.97	.95	.96	.94	.92	.93	.91	.89	.87
2.0	.94	.88	.83	.92	.87	.82	.89	.84	.80	.86	.82	.78	.83	.80	.77	.75
3.0	.83	.76	.70	.82	.75	.69	.79	.73	.68	.76	.71	.67	.74	.70	.66	.64
4.0	.74	.66	.60	.73	.65	.59	.70	.64	.59	.68	.62	.58	.66	.61	.57	.55
5.0	.66	.58	.52	.65	.57	.51	.63	.56	.51	.61	.55	.50	.60	.54	.50	.48
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.45	.55	.49	.44	.54	.48	.44	.42
7.0	.54	.46	.40	.53	.45	.40	.52	.45	.39	.50	.44	.39	.49	.43	.39	.37
8.0	.49	.41	.35	.49	.41	.35	.47	.40	.35	.46	.40	.35	.45	.39	.35	.33
9.0	.45	.37	.32	.45	.37	.32	.44	.36	.32	.42	.36	.31	.41	.36	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.28	.38	.33	.28	.27



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2022-05-30

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:

WEC AND CCEC

Test:U:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	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	.260	.148	.047	.253	.144	.046	.240	.138	.044	.228	.132	.042	.217	.126	.041	
2.0	.256	.140	.043	.250	.138	.042	.238	.133	.041	.228	.128	.040	.218	.123	.039	
3.0	.244	.130	.039	.239	.128	.038	.229	.124	.038	.219	.120	.037	.211	.117	.036	
4.0	.230	.120	.035	.225	.118	.035	.216	.115	.034	.208	.112	.034	.200	.109	.033	
5.0	.216	.110	.032	.212	.109	.032	.204	.106	.031	.197	.104	.031	.190	.101	.030	
6.0	.203	.102	.029	.199	.101	.029	.192	.098	.029	.185	.096	.028	.179	.094	.028	
7.0	.191	.094	.027	.187	.093	.027	.181	.091	.026	.175	.090	.026	.169	.088	.026	
8.0	.179	.088	.025	.176	.087	.025	.171	.085	.024	.165	.084	.024	.160	.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	.074	.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	.177	.157	.138	.151	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.102	.143	.114	.088	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.159	.114	.078	.137	.098	.068	.094	.068	.047	.054	.040	.028	.017	.013	.009	
4.0	.152	.101	.061	.131	.087	.053	.090	.061	.037	.052	.035	.022	.017	.012	.007	
5.0	.145	.090	.049	.125	.078	.043	.086	.054	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.041	.119	.071	.035	.082	.049	.025	.048	.029	.015	.015	.010	.005	
7.0	.132	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.126	.069	.030	.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	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2022-05-30

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:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm										
NAME: 486710-MR16-2W-3000K-120°					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	28.9	30.4	29.2	30.6	30.8	27.6	29.0	27.8	29.2	29.4
3H	29.9	31.2	30.2	31.5	31.7	27.4	28.7	27.7	28.9	29.2
4H	30.1	31.4	30.4	31.6	31.9	27.3	28.5	27.6	28.8	29.0
6H	30.1	31.2	30.4	31.5	31.8	27.2	28.4	27.5	28.6	28.9
8H	30.0	31.1	30.3	31.4	31.7	27.1	28.3	27.5	28.5	28.8
12H	30.0	31.0	30.3	31.3	31.6	27.1	28.2	27.4	28.5	28.8
4H 2H	29.2	30.5	29.5	30.7	31.0	28.0	29.3	28.3	29.5	29.8
3H	30.3	31.4	30.7	31.7	32.0	27.9	29.0	28.2	29.2	29.5
4H	30.5	31.5	30.9	31.8	32.1	27.8	28.8	28.2	29.1	29.4
6H	30.5	31.4	30.9	31.7	32.1	27.7	28.6	28.1	28.9	29.3
8H	30.5	31.2	30.9	31.6	32.0	27.7	28.5	28.1	28.8	29.2
12H	30.4	31.1	30.8	31.5	31.9	27.6	28.3	28.1	28.7	29.1
8H 4H	30.4	31.2	30.8	31.6	31.9	27.8	28.6	28.2	28.9	29.3
6H	30.4	31.0	30.8	31.4	31.9	27.7	28.3	28.1	28.7	29.2
8H	30.4	30.9	30.8	31.3	31.8	27.7	28.2	28.1	28.7	29.1
12H	30.3	30.8	30.8	31.3	31.7	27.6	28.1	28.1	28.6	29.0
12H 4H	30.4	31.1	30.8	31.5	31.9	27.7	28.5	28.2	28.8	29.2
6H	30.4	30.9	30.8	31.3	31.8	27.7	28.2	28.1	28.7	29.1
8H	30.3	30.8	30.8	31.2	31.7	27.6	28.1	28.1	28.6	29.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.3				
1.5H	+ 0.3 / - 0.6					+ 0.9 / - 1.6				
2.0H	+ 0.7 / - 0.7					+ 1.3 / - 3.4				

CIE Pub.117, 247.8 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -4.8)
Area: 0.001 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2022-05-30

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:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

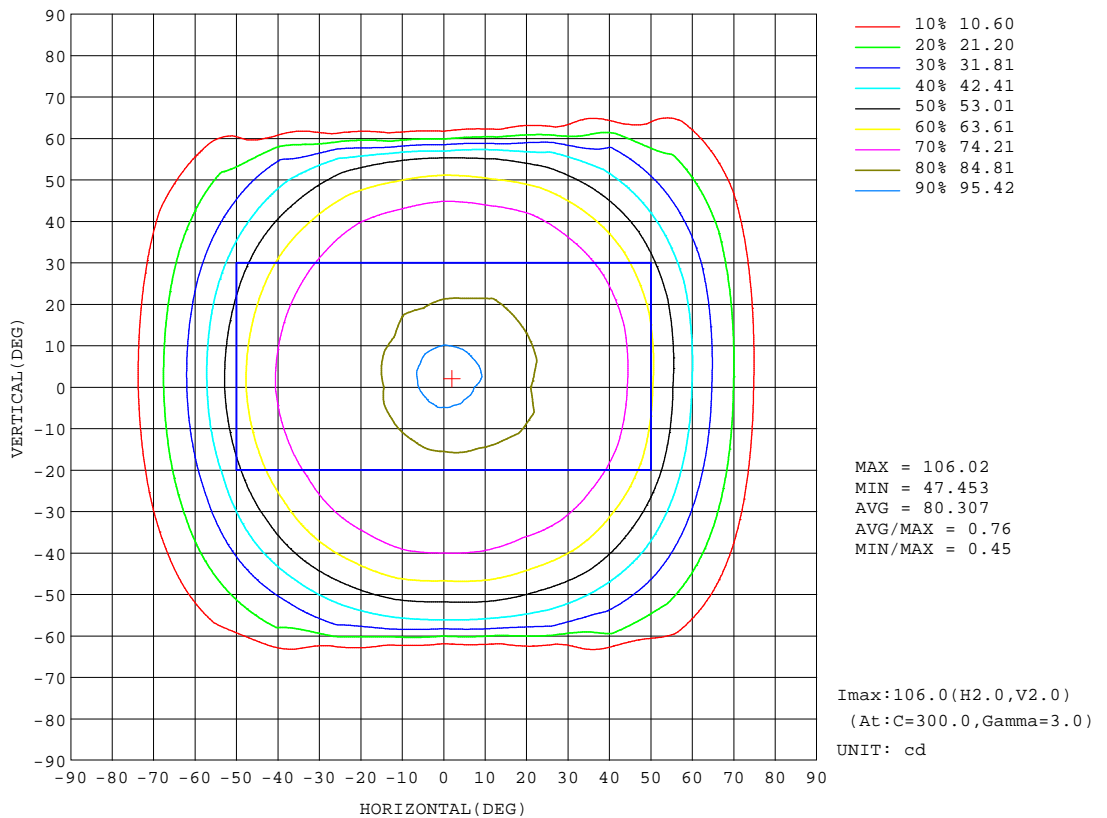
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	59	48	41	59	48	41	57	47	41	35
0.80	70	59	52	69	59	52	68	58	52	45
1.00	80	69	63	78	69	62	76	70	62	55
1.25	87	77	71	86	77	71	83	75	70	63
1.50	92	83	77	90	82	76	87	81	75	68
2.00	99	91	86	97	90	85	93	88	83	76
2.50	102	95	90	100	94	89	96	91	87	79
3.00	105	99	94	103	98	93	99	95	91	83
4.00	108	103	99	106	102	98	102	98	95	87
5.00	110	106	103	108	104	101	104	101	98	89
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:2022-05-30

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:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:



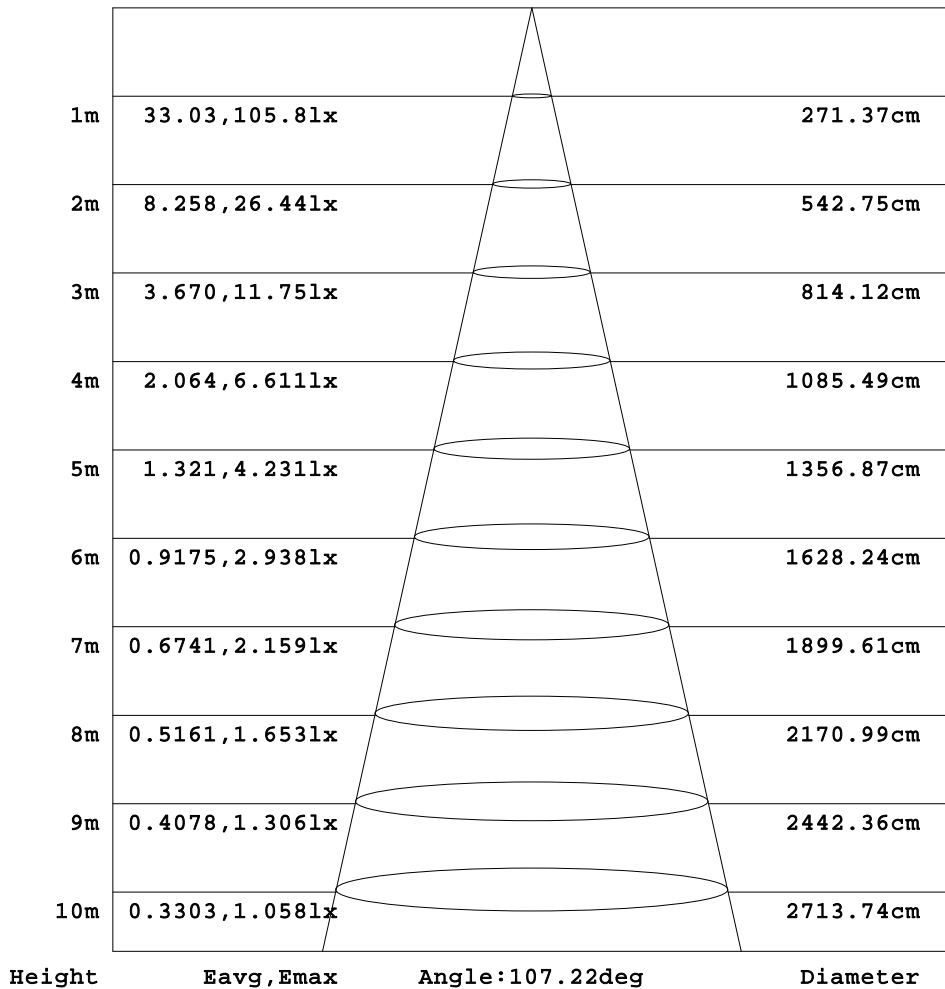
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2022-05-30

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:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

Flux out:196.6 lm



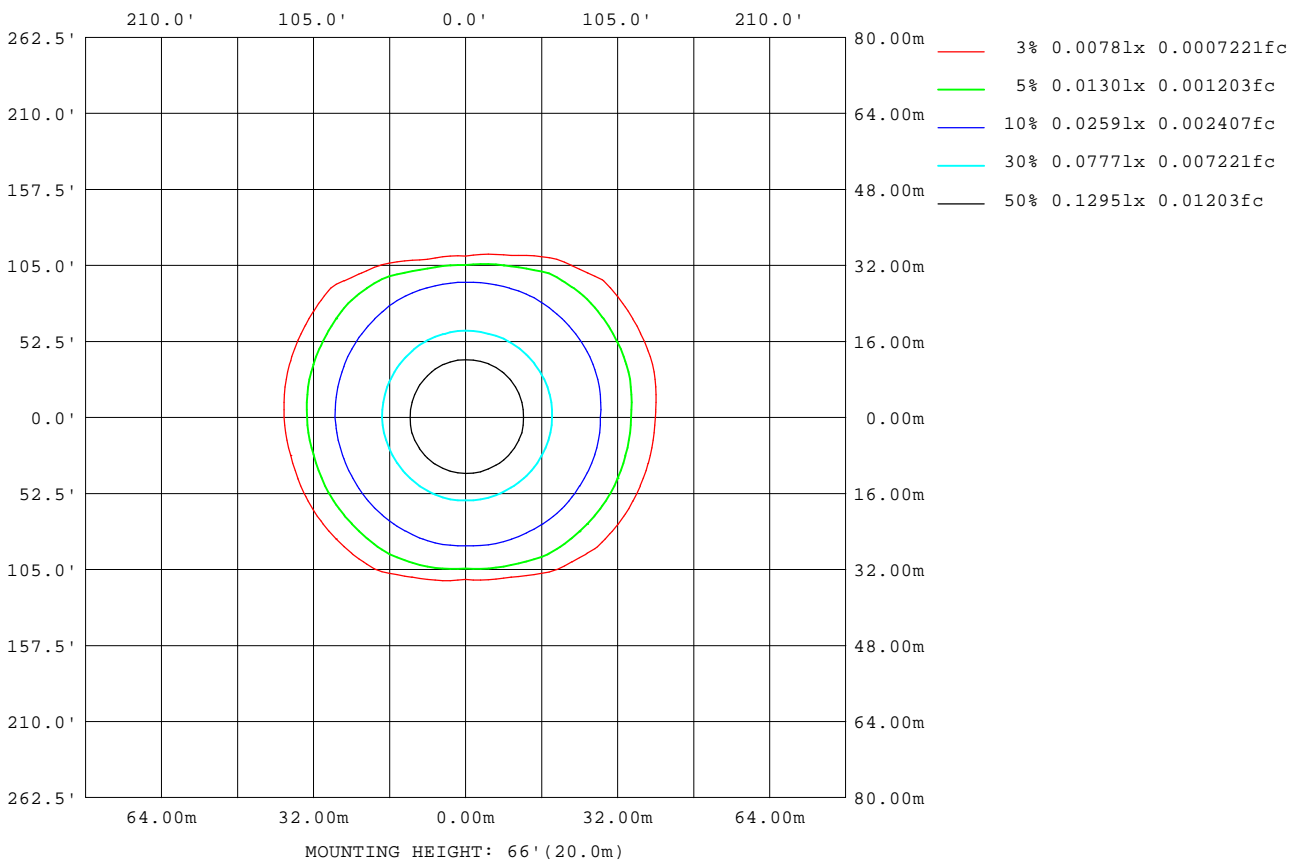
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2022-05-30

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:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	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:2022-05-30

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:12.017V I:0.2882A P:2.3402W PF:0.6758 Freq:60.00Hz Lamp Flux:247.765x1 lm		
NAME: 486710-MR16-2W-3000K-120°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

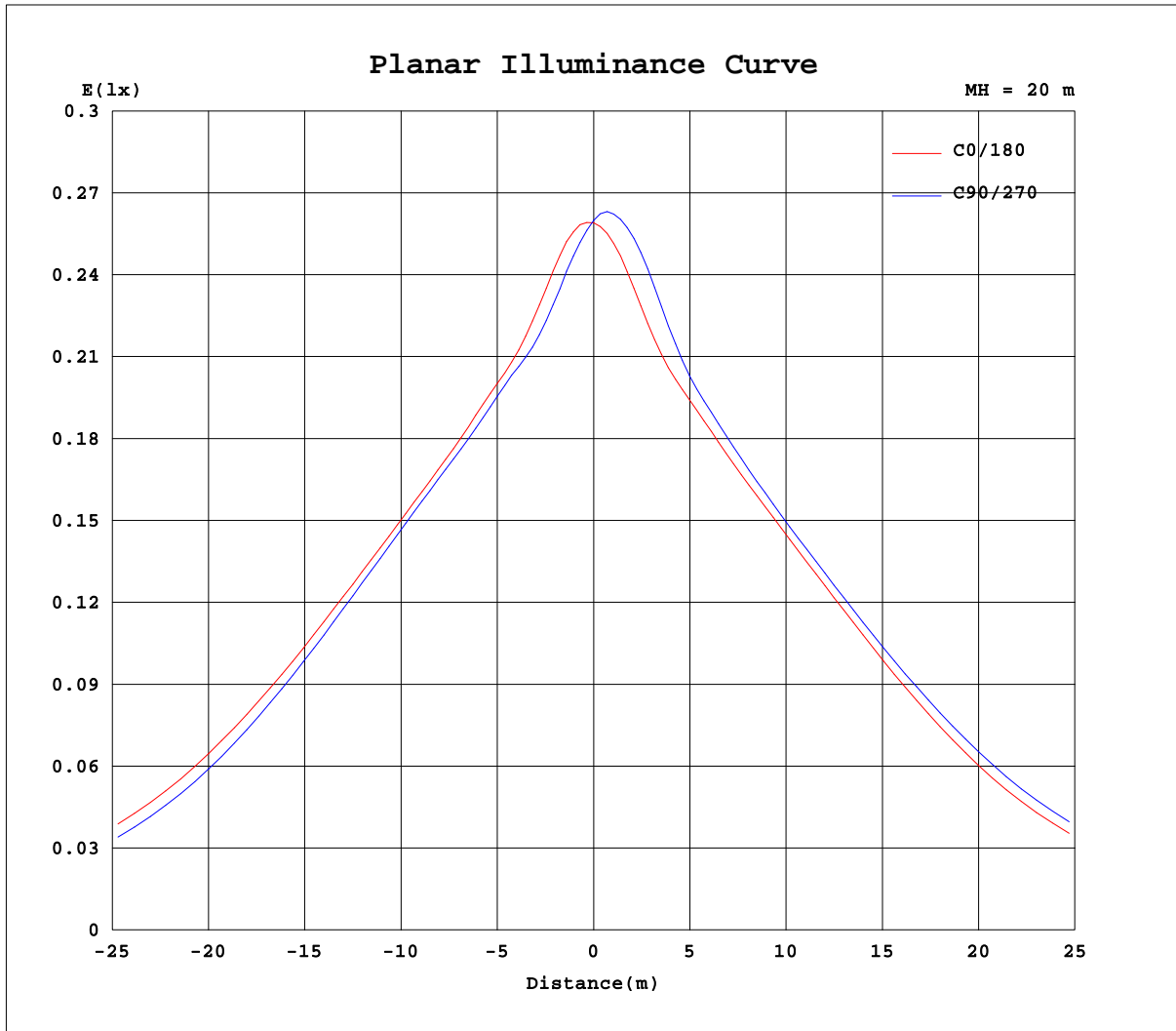
AvgL	cd/m2
L_0~180(65)av	67816
L_0~180(75)av	35191
L_0~180(85)av	7379
L_90~270(65)av	9790
L_90~270(75)av	5439
L_90~270(85)av	5
L_45(65)av	66134
L_45(75)av	7765
L_45(85)av	745

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2022-05-30

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: 2022-05-30

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:

