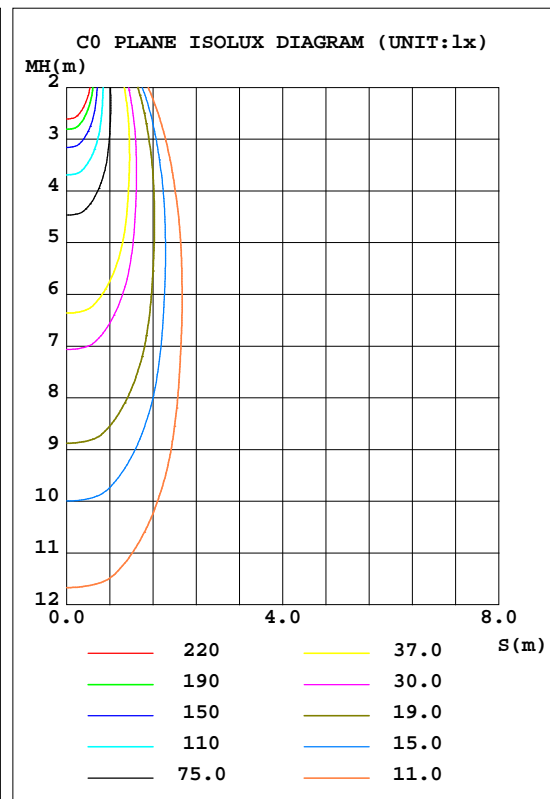
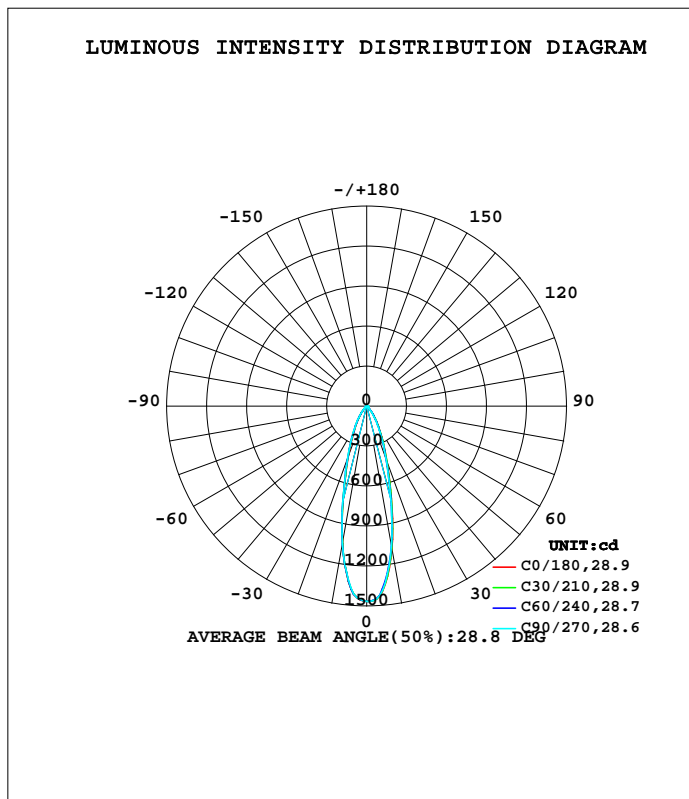


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 86.84 lm/W
MODEL		I _{max} (cd)	1468	S/MH(C0/180)		0.47
NOMINAL POWER(W)	--	LOR(%)	100.0	S/MH(C90/270)		0.48
RATED VOLTAGE(V)	--	TOTAL FLUX(lm)	546.28	η UP, DN(C0-180)		0.0,49.2
NOMINAL FLUX(lm)	546.282	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		0.50



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	1091	1084	1069	1022	1047	1043	1051	1108	0- 10	121.0	121.0	22.1,22.1
20	447.4	449.6	430.4	396.0	410.1	416.5	427.1	455.5	10- 20	191.6	312.6	57.2,57.2
30	177.6	180.1	167.1	153.9	160.8	164.4	170.4	181.4	20- 30	126.0	438.6	80.3,80.3
40	56.58	56.05	53.29	47.31	50.89	50.80	55.42	61.72	30- 40	64.80	503.4	92.1,92.1
50	13.95	13.95	14.04	13.74	14.94	14.98	13.91	15.34	40- 50	21.30	524.7	96,96
60	10.74	10.82	6.474	10.70	11.59	11.43	7.136	11.72	50- 60	10.92	535.6	98,98
70	6.817	5.117	2.496	4.590	7.617	5.141	2.699	6.140	60- 70	7.704	543.3	99.5,99.5
80	1.939	0.3944	0.0889	0.2591	2.112	0.3271	0.0560	0.5809	70- 80	2.736	546.0	100,100
90	0.0073	0.0022	0	0	0.0153	0.0111	0.0075	0.0098	80- 90	0.2434	546.3	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): 517.22 lm

%lum = 94.7%
%lamp = 94.7%

Conical surface Flux(120deg): 535.6 lm

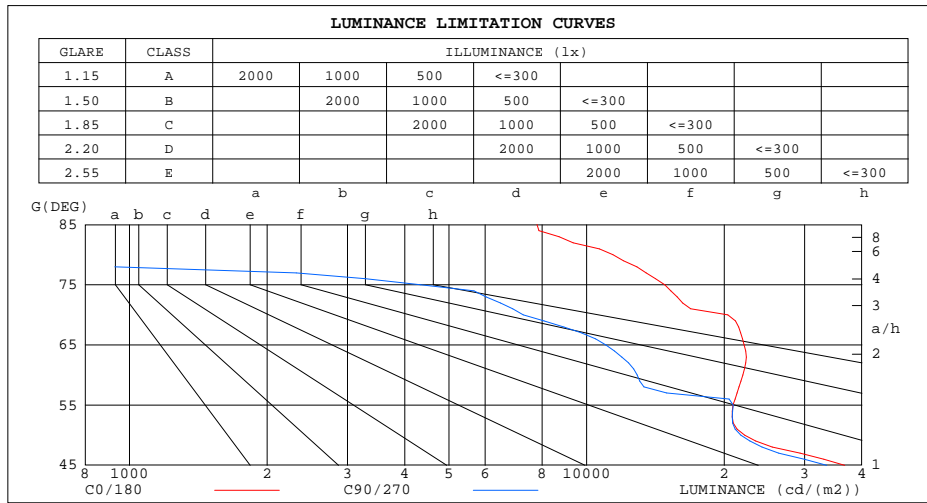
%lum = 98.0%
%lamp = 98.0%

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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	7790	79
80	11419	510
75	14833	4329
70	20378	7269
65	22130	11012
60	21970	12898
55	20899	20950
50	22194	21761
45	36668	33513

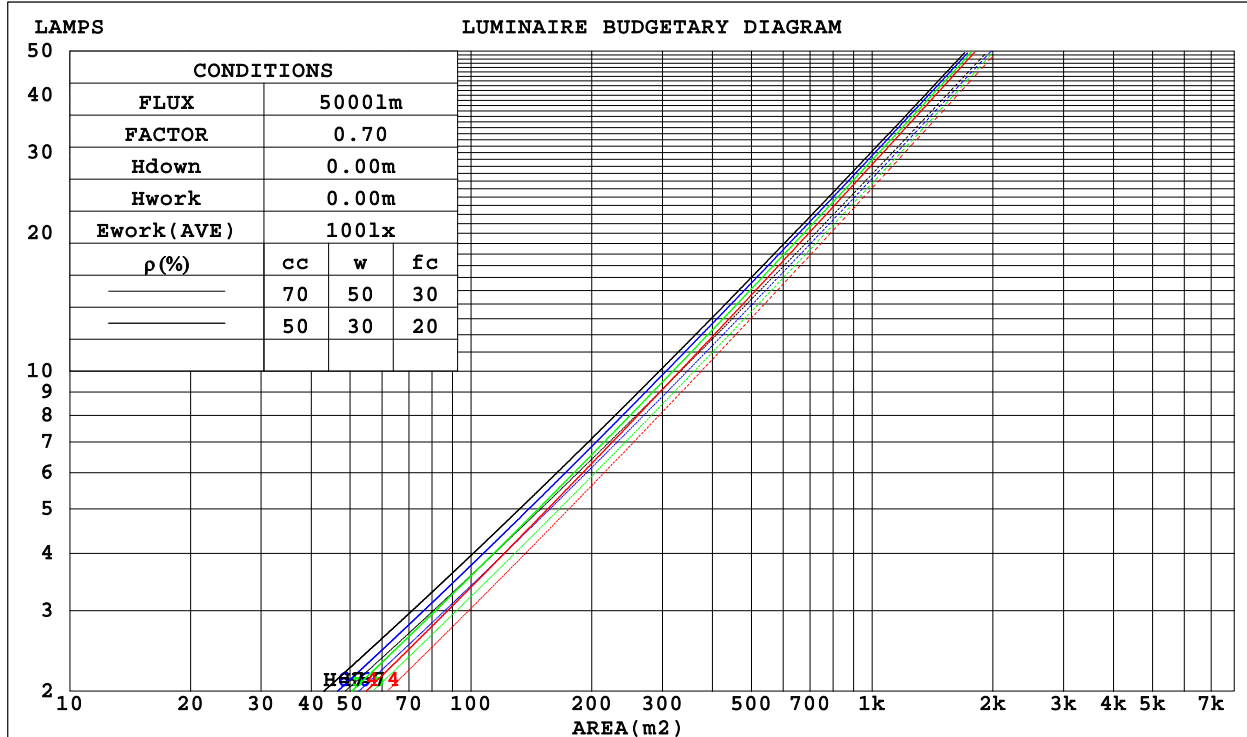
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2022-05-30

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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	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	1.00
1.0	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.94
2.0	1.04	1.01	.98	1.03	.99	.97	.90	.97	.94	.97	.94	.92	.94	.92	.91	.89
3.0	.98	.94	.90	.97	.93	.89	.94	.91	.88	.92	.89	.87	.90	.87	.85	.84
4.0	.93	.88	.84	.92	.87	.84	.90	.86	.83	.88	.84	.82	.86	.83	.81	.79
5.0	.88	.83	.79	.87	.82	.79	.86	.81	.78	.84	.80	.77	.82	.79	.77	.75
6.0	.84	.79	.75	.83	.78	.74	.82	.77	.74	.80	.76	.74	.79	.76	.73	.72
7.0	.80	.75	.71	.79	.74	.71	.78	.74	.70	.77	.73	.70	.76	.72	.70	.68
8.0	.76	.71	.68	.76	.71	.67	.75	.70	.67	.74	.70	.67	.73	.69	.67	.65
9.0	.73	.68	.65	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.67	.64	.63
10.0	.70	.65	.62	.70	.65	.62	.69	.65	.62	.68	.64	.61	.68	.64	.61	.60



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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	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	.166	.094	.030	.159	.091	.029	.147	.084	.027	.135	.078	.025	.125	.072	.023	
2.0	.157	.086	.026	.152	.084	.026	.141	.079	.024	.132	.074	.023	.123	.069	.022	
3.0	.148	.079	.024	.144	.077	.023	.135	.073	.022	.127	.069	.021	.119	.066	.020	
4.0	.140	.073	.021	.136	.071	.021	.128	.068	.020	.121	.065	.020	.115	.062	.019	
5.0	.132	.067	.020	.129	.066	.019	.122	.064	.019	.116	.061	.018	.110	.059	.018	
6.0	.126	.063	.018	.123	.062	.018	.117	.060	.017	.111	.058	.017	.106	.056	.017	
7.0	.119	.059	.017	.117	.058	.017	.112	.056	.016	.107	.055	.016	.102	.053	.016	
8.0	.114	.056	.016	.111	.055	.015	.107	.053	.015	.103	.052	.015	.099	.051	.015	
9.0	.109	.053	.015	.107	.052	.015	.103	.051	.014	.099	.050	.014	.095	.048	.014	
10.0	.104	.050	.014	.102	.049	.014	.098	.048	.014	.095	.047	.013	.092	.046	.013	

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	.170	.157	.146	.146	.135	.125	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.154	.133	.114	.132	.114	.099	.091	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.141	.113	.092	.121	.098	.079	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.130	.099	.075	.111	.085	.065	.077	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.121	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.022	.013	.010	.007	
6.0	.112	.077	.052	.097	.067	.045	.067	.047	.032	.039	.028	.019	.012	.009	.006	
7.0	.105	.069	.044	.091	.060	.038	.063	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.099	.063	.038	.085	.055	.033	.059	.038	.023	.034	.023	.014	.011	.007	.005	
9.0	.094	.057	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.089	.053	.029	.077	.046	.025	.053	.032	.018	.031	.019	.011	.010	.006	.004	

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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm										
NAME: 486717-MR16-7W-3000K-25°					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	20.2	21.0	20.4	21.2	21.3	19.5	20.4	19.8	20.5	20.7
3H	20.8	21.6	21.0	21.8	22.0	19.6	20.4	19.9	20.6	20.8
4H	21.0	21.7	21.2	21.9	22.1	19.6	20.3	19.8	20.5	20.7
6H	21.0	21.7	21.3	22.0	22.2	19.5	20.2	19.8	20.4	20.7
8H	21.0	21.7	21.4	22.0	22.2	19.4	20.1	19.7	20.4	20.6
12H	21.0	21.7	21.3	21.9	22.2	19.4	20.0	19.7	20.3	20.6
4H 2H	20.3	21.0	20.6	21.2	21.5	19.7	20.4	19.9	20.6	20.8
3H	21.0	21.7	21.4	22.0	22.2	19.8	20.5	20.1	20.7	21.0
4H	21.3	21.9	21.6	22.2	22.5	19.8	20.4	20.1	20.7	21.0
6H	21.5	22.0	21.8	22.3	22.6	19.7	20.2	20.1	20.5	20.9
8H	21.5	22.0	21.9	22.3	22.7	19.6	20.1	20.0	20.5	20.8
12H	21.5	21.9	21.9	22.3	22.7	19.6	20.0	20.0	20.4	20.8
8H 4H	21.2	21.7	21.6	22.1	22.4	19.8	20.3	20.2	20.6	21.0
6H	21.4	21.8	21.8	22.2	22.6	19.7	20.1	20.1	20.5	20.9
8H	21.4	21.8	21.9	22.2	22.6	19.6	20.0	20.1	20.4	20.8
12H	21.4	21.7	21.9	22.2	22.6	19.6	19.9	20.0	20.3	20.8
12H 4H	21.2	21.6	21.6	22.0	22.4	19.7	20.2	20.1	20.5	20.9
6H	21.3	21.7	21.8	22.1	22.5	19.6	20.0	20.1	20.4	20.8
8H	21.4	21.7	21.8	22.1	22.6	19.6	19.9	20.0	20.3	20.8
Variations with the observer position at spacings:										
S = 1.0H	+ 1.5 / - 1.6					+ 2.0 / - 2.9				
1.5H	+ 3.3 / - 1.9					+ 3.8 / - 2.5				
2.0H	+ 1.2 / - 0.6					+ 1.8 / - 1.9				

CIE Pub.117, 546.3 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -2.1)
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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

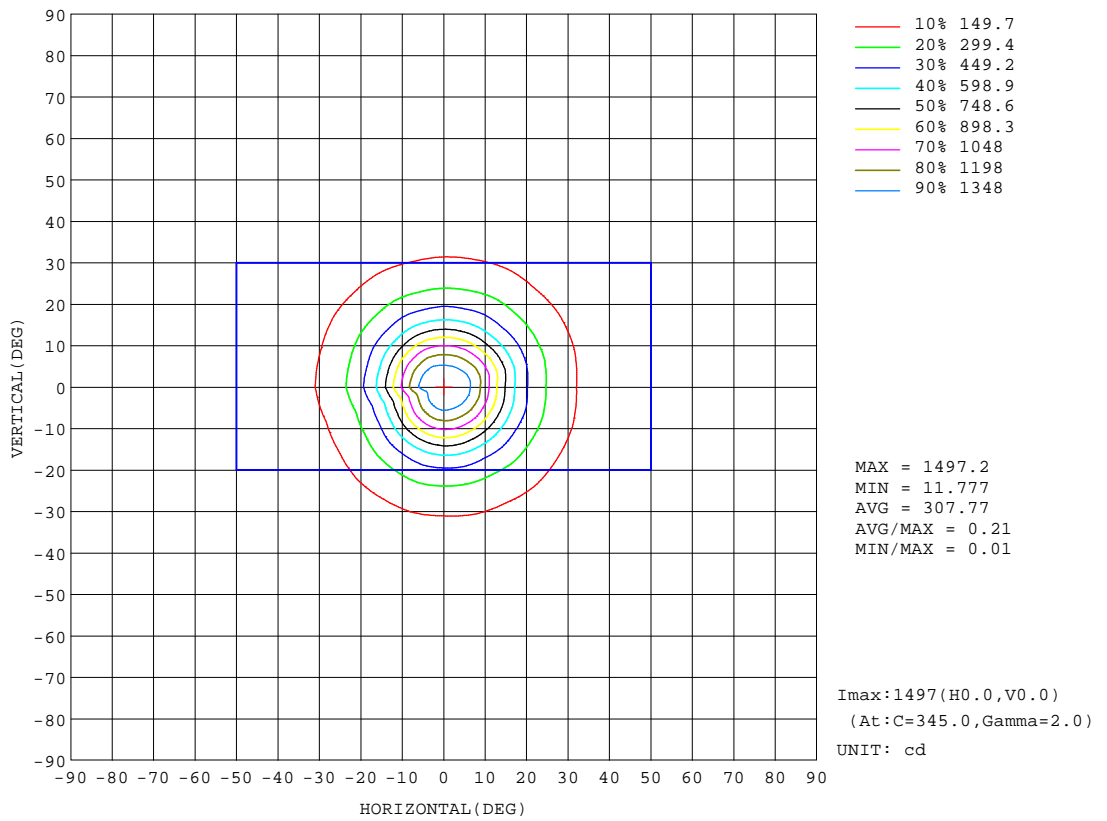
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	87	80	76	86	80	76	85	80	76	73
0.80	94	88	84	93	88	84	92	87	84	80
1.00	99	93	89	98	92	89	96	92	88	84
1.25	103	97	94	102	97	93	100	96	93	88
1.50	105	101	97	104	100	97	102	98	96	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	104	97
5.00	115	113	111	113	111	109	109	107	106	98
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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:



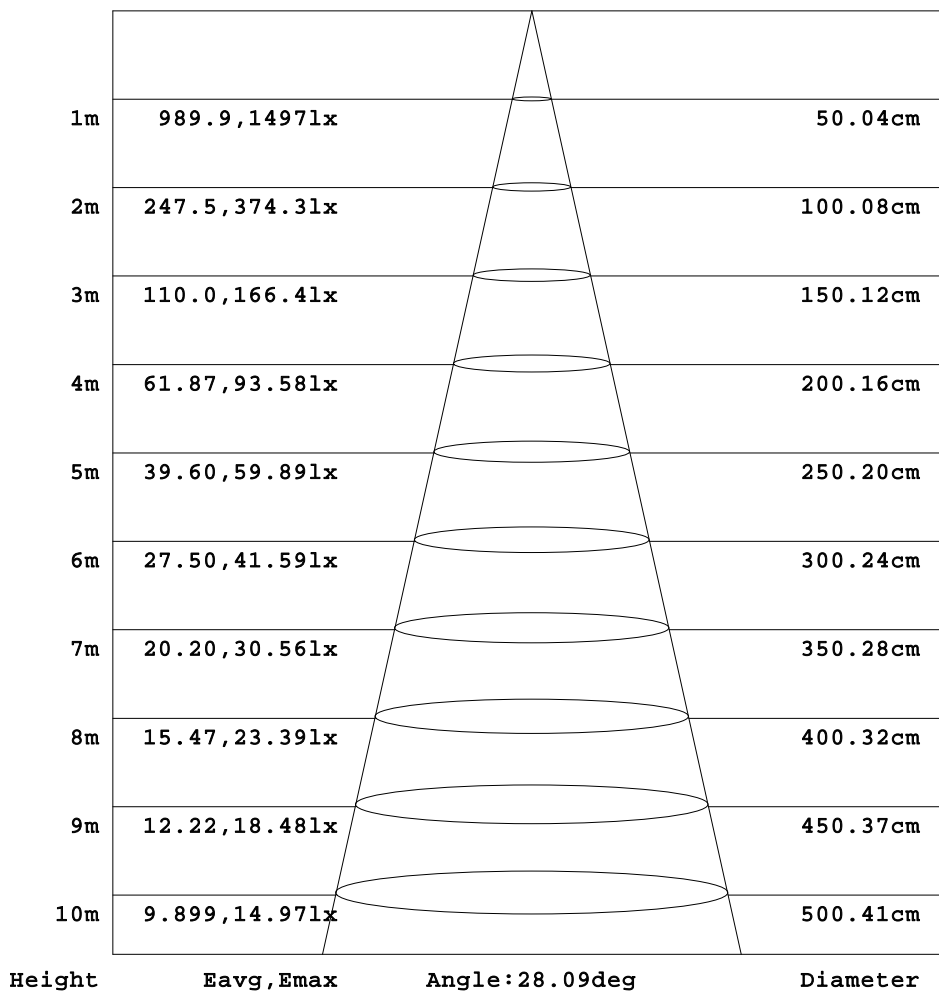
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2022-05-30

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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

Flux out:223.3 lm



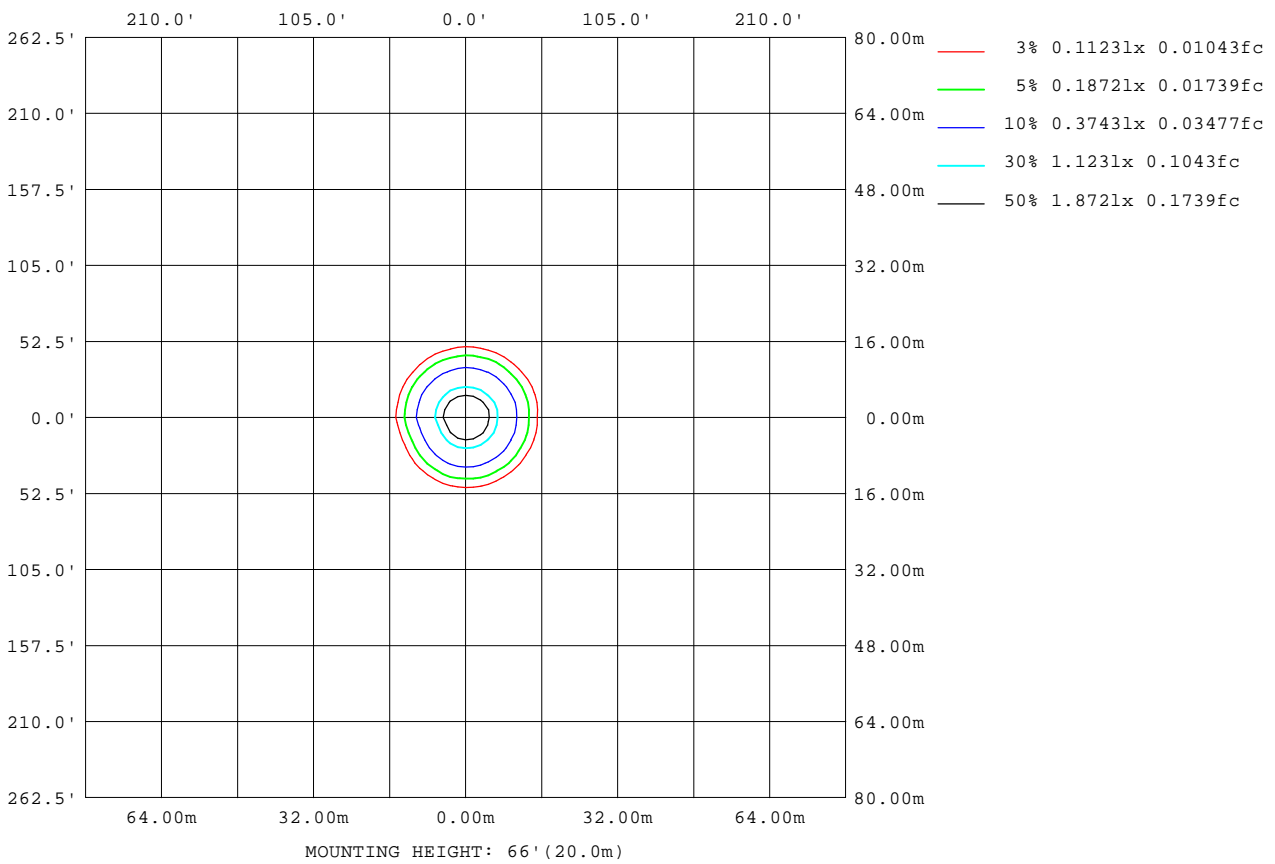
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	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:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

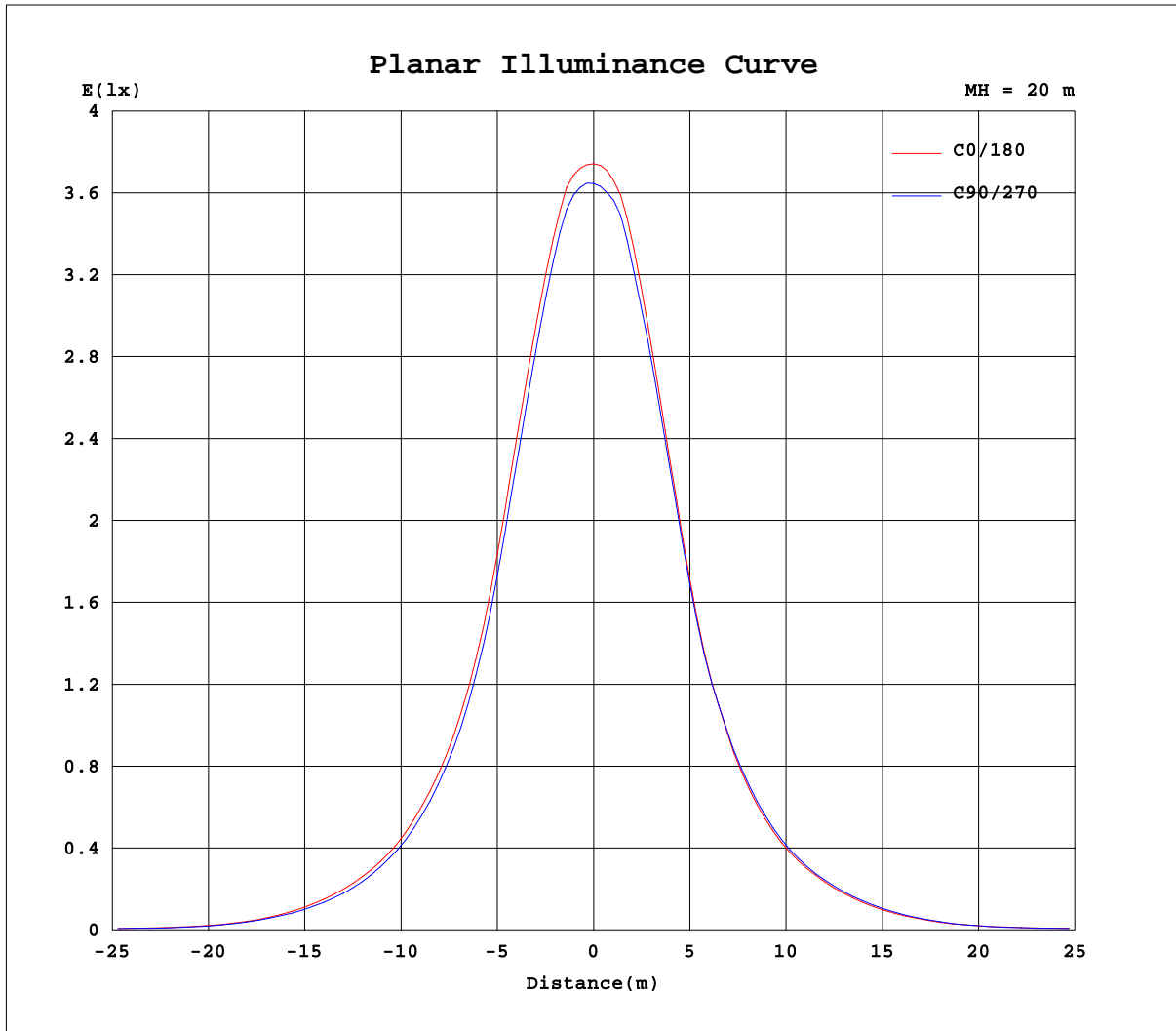
AvgL	cd/m2
L_0~180(65)av	22674
L_0~180(75)av	14918
L_0~180(85)av	7683
L_90~270(65)av	11784
L_90~270(75)av	4419
L_90~270(85)av	91
L_45(65)av	22689
L_45(75)av	8036
L_45(85)av	323

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:11.912V I:0.6964A P:6.2905W PF:0.7583 Freq:60.00Hz Lamp Flux:546.282x1 lm		
NAME: 486717-MR16-7W-3000K-25°	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:35mm	Shielding Angle:

Table--2

UNIT: cd

C (DEG) γ (DEG)	285	300	315	330	345														
0	1464	1464	1464	1464	1464														
5	1374	1387	1400	1421	1435														
10	1064	1087	1108	1142	1158														
15	686	706	727	764	788														
20	431	451	456	481	486														
25	275	290	290	302	309														
30	174	183	181	190	196														
35	106	112	112	119	121														
40	55.8	59.9	61.7	65.9	65.8														
45	26.0	27.2	28.8	29.9	31.4														
50	14.9	15.2	15.3	15.8	16.8														
55	12.5	12.7	12.9	12.9	13.3														
60	7.96	11.4	11.7	11.8	12.1														
65	5.64	6.67	10.2	10.5	10.5														
70	3.00	4.03	6.14	8.00	8.14														
75	1.24	1.46	2.63	4.49	4.61														
80	0.05	0.08	0.58	1.54	2.53														
85	0.01	0.02	0.03	0.04	0.74														
90	0.01	0.01	0.01	0.01	0.02														

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: