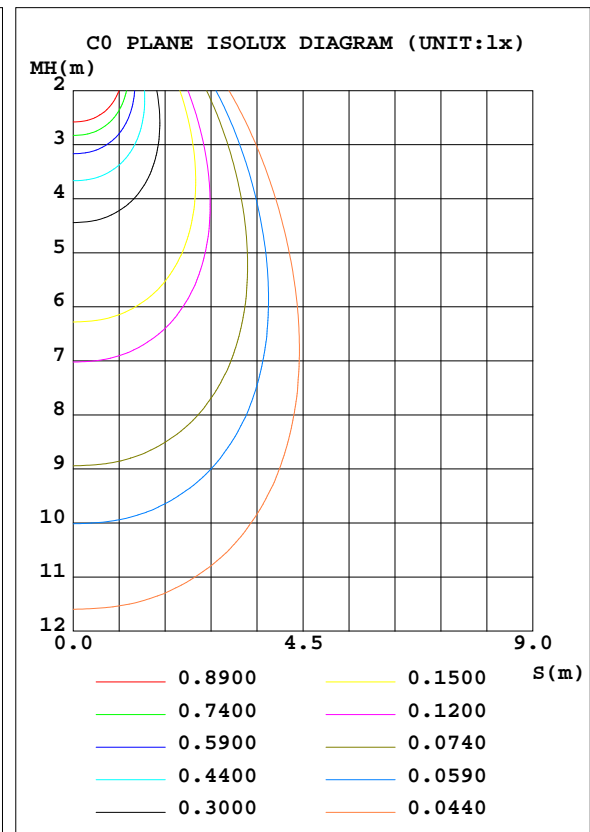
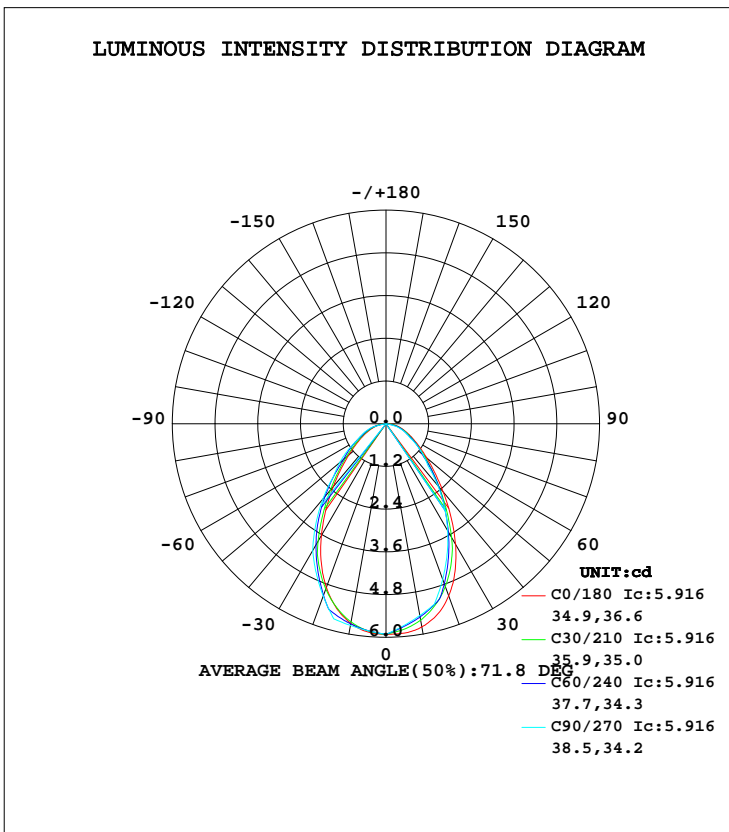


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 51.30 lm/W			
MODEL	489880-2700K	I _{max} (cd)	5.916	S/MH(C0/180)	1.00
NOMINAL POWER(W)	0.8	LOR(%)	19.1	S/MH(C90/270)	1.07
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	9.5429	η UP, DN(C0-180)	0.0,9.1
NOMINAL FLUX(lm)	50	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,10.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	12	η down(%)	19.1	CIBSE SHR MAX	1.10



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2023-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [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
5	5.902	5.752	5.694	5.734	5.872	5.834	5.835	5.850	0- 5	0.1397	0.1397	1.46,0.28
10	5.794	5.545	5.471	5.475	5.696	5.676	5.753	5.735	5- 10	0.4088	0.5485	5.75,1.1
15	5.554	5.258	5.249	5.137	5.368	5.433	5.672	5.548	10- 15	0.6531	1.202	12.6,2.4
20	5.149	4.896	4.654	4.734	4.896	5.127	5.154	5.271	15- 20	0.8514	2.053	21.5,4.11
25	4.586	4.259	4.060	4.094	4.304	4.513	4.636	4.674	20- 25	0.9745	3.028	31.7,6.06
30	3.910	3.565	3.465	3.419	3.631	3.831	4.119	3.997	25- 30	1.022	4.049	42.4,8.1
35	3.180	2.891	2.866	2.772	2.943	3.171	3.438	3.314	30- 35	0.9974	5.047	52.9,10.1
40	2.503	2.282	2.266	2.185	2.302	2.545	2.757	2.670	35- 40	0.9140	5.961	62.5,11.9
45	1.938	1.804	1.667	1.721	1.782	1.995	2.076	2.100	40- 45	0.7950	6.756	70.8,13.5
50	1.497	1.397	1.368	1.324	1.366	1.533	1.698	1.617	45- 50	0.6690	7.425	77.8,14.8
55	1.164	1.062	1.069	0.9936	1.051	1.158	1.320	1.229	50- 55	0.5620	7.987	83.7,16
60	0.9108	0.8463	0.7704	0.7850	0.8070	0.9136	0.9420	0.9773	55- 60	0.4624	8.449	88.5,16.9
65	0.7114	0.6519	0.6166	0.5986	0.6146	0.6981	0.7665	0.7534	60- 65	0.3720	8.821	92.4,17.6
70	0.5470	0.4911	0.4627	0.4391	0.4546	0.5223	0.5910	0.5776	65- 70	0.2989	9.120	95.6,18.2
75	0.4116	0.3623	0.3089	0.3061	0.3173	0.3781	0.4155	0.4419	70- 75	0.2294	9.350	98,18.7
80	0.2869	0.2042	0	0.1552	0.1917	0.2078	0	0.2633	75- 80	0.1436	9.493	99.5,19
85	0.1604	0	0	0	0.0653	0	0	0	80- 85	0.0441	9.537	99.9,19.1
90	0.0452	0	0	0	0	0	0	0	85- 90	0.0055	9.543	100,19.1
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

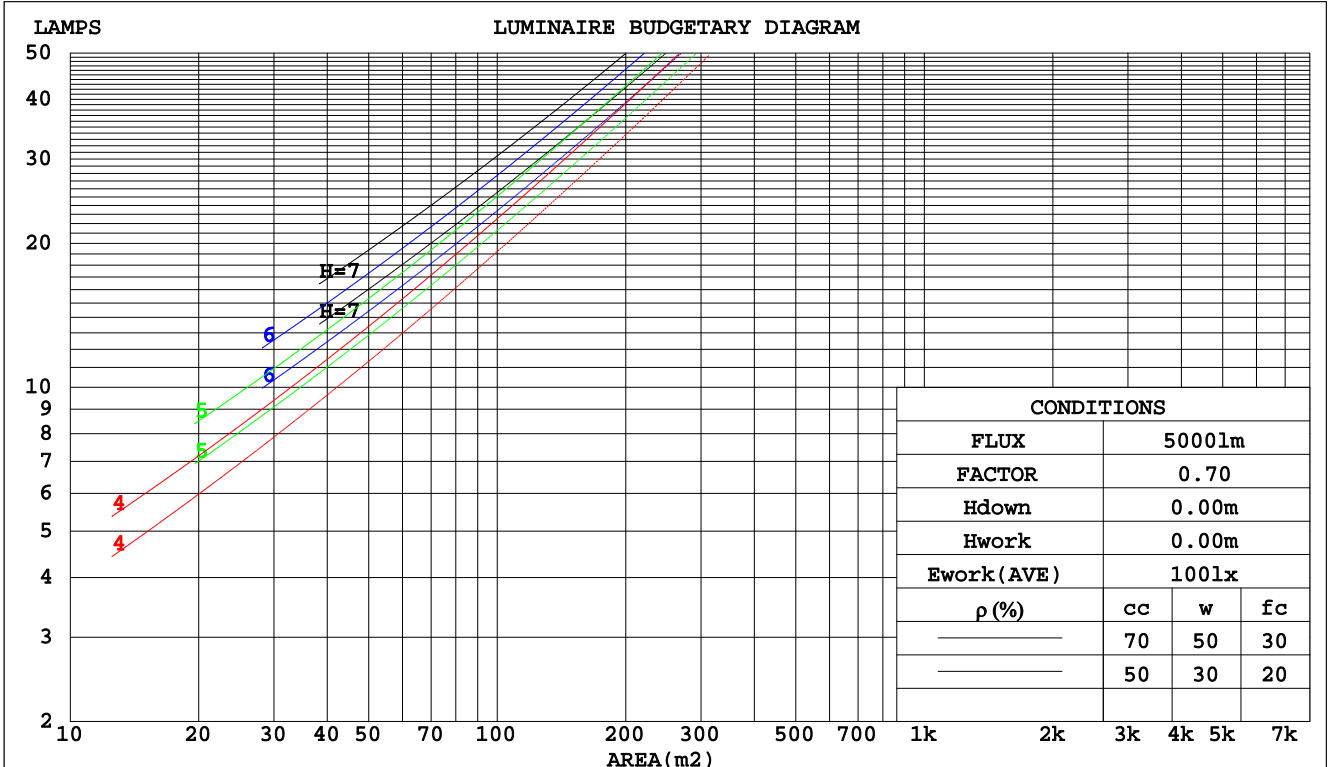
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2023-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION 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	.23	.23	.23	.22	.22	.22	.21	.21	.21	.20	.20	.20	.19	.19	.19	.19
1.0	.20	.20	.19	.20	.19	.19	.19	.19	.18	.18	.18	.18	.18	.17	.17	.17
2.0	.18	.17	.16	.18	.17	.16	.17	.16	.16	.17	.16	.15	.16	.16	.15	.15
3.0	.16	.15	.14	.16	.15	.14	.16	.15	.14	.15	.14	.13	.15	.14	.13	.13
4.0	.15	.13	.12	.15	.13	.12	.14	.13	.12	.14	.13	.12	.13	.13	.12	.11
5.0	.14	.12	.11	.13	.12	.11	.13	.12	.11	.13	.12	.11	.12	.11	.11	.10
6.0	.12	.11	.10	.12	.11	.10	.12	.11	.10	.12	.10	.10	.11	.10	.10	.09
7.0	.11	.10	.09	.11	.10	.09	.11	.10	.09	.11	.10	.09	.10	.09	.09	.08
8.0	.11	.09	.08	.10	.09	.08	.10	.09	.08	.10	.09	.08	.10	.09	.08	.08
9.0	.10	.08	.07	.10	.08	.07	.09	.08	.07	.09	.08	.07	.09	.08	.07	.07
10.0	.09	.08	.07	.09	.08	.07	.09	.08	.07	.09	.08	.07	.09	.08	.07	.06



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2023-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.048	.027	.009	.047	.027	.008	.044	.025	.008	.042	.024	.008	.040	.023	.007	
2.0	.046	.025	.008	.045	.025	.008	.043	.024	.007	.041	.023	.007	.039	.022	.007	
3.0	.043	.023	.007	.042	.023	.007	.040	.022	.007	.039	.021	.006	.037	.021	.006	
4.0	.040	.021	.006	.040	.021	.006	.038	.020	.006	.036	.020	.006	.035	.019	.006	
5.0	.038	.019	.006	.037	.019	.006	.036	.019	.005	.034	.018	.005	.033	.018	.005	
6.0	.036	.018	.005	.035	.018	.005	.034	.017	.005	.032	.017	.005	.031	.016	.005	
7.0	.033	.017	.005	.033	.016	.005	.032	.016	.005	.031	.016	.005	.030	.015	.005	
8.0	.031	.015	.004	.031	.015	.004	.030	.015	.004	.029	.015	.004	.028	.014	.004	
9.0	.030	.014	.004	.029	.014	.004	.028	.014	.004	.027	.014	.004	.027	.014	.004	
10.0	.028	.013	.004	.028	.013	.004	.027	.013	.004	.026	.013	.004	.025	.013	.004	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.036	.036	.036	.031	.031	.031	.021	.021	.021	.012	.012	.012	.004	.004	.004	
1.0	.034	.030	.027	.029	.026	.023	.020	.018	.016	.011	.010	.009	.004	.003	.003	
2.0	.032	.025	.020	.027	.022	.017	.019	.015	.012	.011	.009	.007	.003	.003	.002	
3.0	.030	.022	.015	.026	.019	.013	.018	.013	.009	.010	.008	.006	.003	.002	.002	
4.0	.028	.019	.012	.024	.017	.011	.017	.012	.007	.010	.007	.004	.003	.002	.001	
5.0	.027	.017	.010	.023	.015	.009	.016	.010	.006	.009	.006	.004	.003	.002	.001	
6.0	.025	.015	.008	.022	.013	.007	.015	.009	.005	.009	.005	.003	.003	.002	.001	
7.0	.024	.014	.007	.021	.012	.006	.014	.009	.004	.008	.005	.003	.003	.002	.001	
8.0	.023	.013	.006	.020	.011	.005	.014	.008	.004	.008	.005	.002	.003	.002	.001	
9.0	.022	.012	.005	.019	.010	.005	.013	.007	.003	.008	.004	.002	.002	.001	.001	
10.0	.021	.011	.005	.018	.010	.004	.013	.007	.003	.007	.004	.002	.002	.001	.001	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2023-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm										
NAME: 489880-2700K					TYPE:489880-2700K			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:			PROTECTION 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	-4.2	-2.9	-4.0	-2.7	-2.5	-4.6	-3.3	-4.3	-3.1	-2.9
3H	-3.1	-1.9	-2.8	-1.7	-1.5	-3.6	-2.4	-3.3	-2.2	-2.0
4H	-2.6	-1.4	-2.3	-1.2	-0.9	-3.2	-2.1	-2.9	-1.8	-1.6
6H	-2.1	-1.0	-1.7	-0.7	-0.5	-3.2	-2.1	-2.9	-1.8	-1.6
8H	-1.8	-0.8	-1.5	-0.5	-0.3	-3.2	-2.2	-2.9	-1.9	-1.6
12H	-1.6	-0.7	-1.3	-0.4	-0.1	-3.3	-2.3	-2.9	-2.0	-1.7
4H 2H	-3.9	-2.7	-3.6	-2.5	-2.3	-4.2	-3.0	-3.9	-2.8	-2.6
3H	-2.5	-1.5	-2.2	-1.3	-1.0	-3.0	-2.0	-2.6	-1.7	-1.4
4H	-1.8	-0.9	-1.5	-0.6	-0.3	-2.4	-1.5	-2.0	-1.2	-0.9
6H	-1.2	-0.4	-0.8	-0.0	0.3	-2.4	-1.6	-2.0	-1.2	-0.9
8H	-0.9	-0.2	-0.5	0.2	0.6	-2.4	-1.7	-2.0	-1.3	-0.9
12H	-0.6	0.0	-0.2	0.4	0.8	-2.4	-1.8	-2.0	-1.4	-1.0
8H 4H	-1.6	-0.9	-1.2	-0.5	-0.2	-2.2	-1.4	-1.8	-1.1	-0.7
6H	-0.8	-0.2	-0.4	0.2	0.6	-2.1	-1.4	-1.6	-1.0	-0.6
8H	-0.4	0.1	0.0	0.5	1.0	-2.1	-1.6	-1.6	-1.1	-0.7
12H	-0.1	0.4	0.4	0.8	1.3	-2.1	-1.7	-1.7	-1.2	-0.8
12H 4H	-1.7	-1.0	-1.3	-0.6	-0.2	-2.1	-1.5	-1.7	-1.1	-0.7
6H	-0.8	-0.3	-0.4	0.1	0.6	-2.0	-1.5	-1.6	-1.1	-0.6
8H	-0.4	0.0	0.0	0.5	0.9	-2.1	-1.6	-1.6	-1.2	-0.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.3					+ 0.4 / - 0.5				
1.5H	+ 0.2 / - 0.2					+ 0.4 / - 0.3				
2.0H	+ 0.5 / - 0.4					+ 0.6 / - 0.7				

CIE Pub.117 Corrected 50.00 lm Total Lamp Luminous Flux. (8log(F/F0) = -10.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2023-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

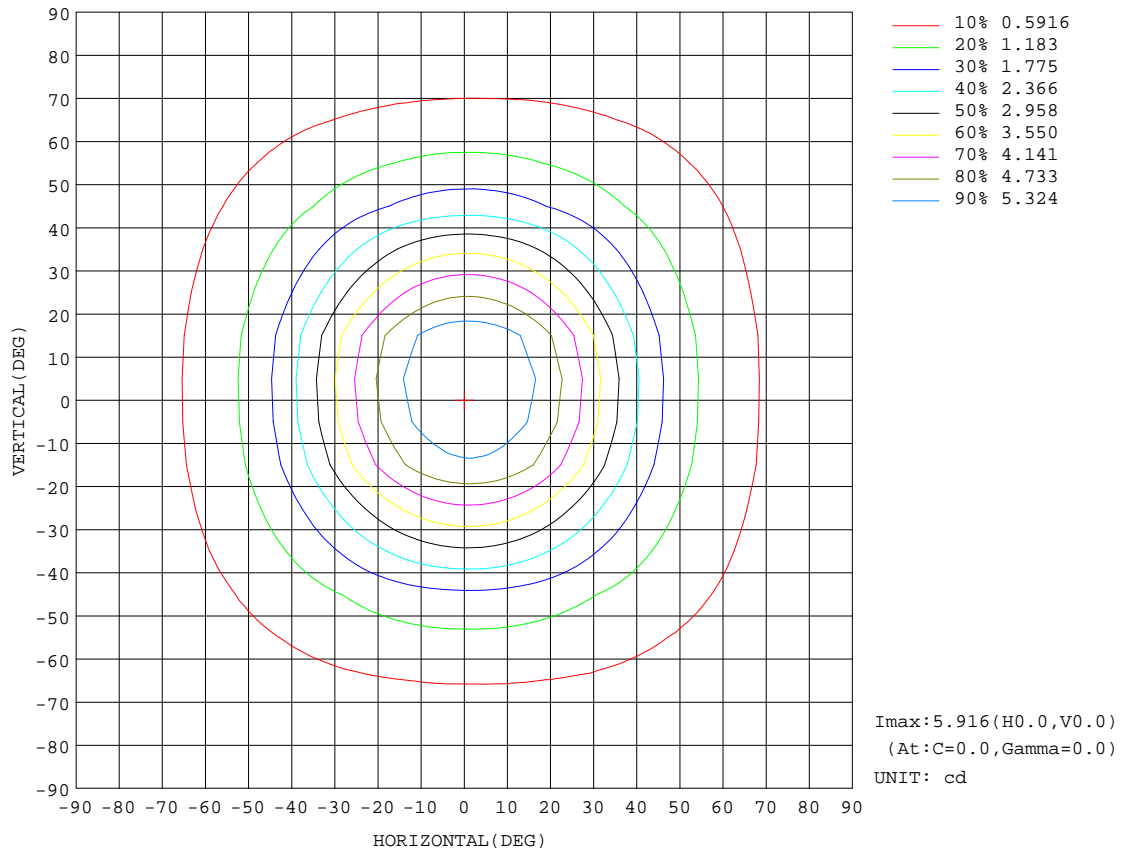
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	13	11	10	13	11	10	13	11	10	9
0.80	15	13	12	15	13	12	14	13	12	11
1.00	16	14	13	16	14	13	16	15	13	12
1.25	17	16	15	17	16	15	17	15	14	13
1.50	18	17	16	18	17	16	17	16	15	14
2.00	19	18	17	19	18	17	18	17	17	15
2.50	20	19	18	19	18	18	19	18	17	16
3.00	20	19	18	20	19	18	19	18	18	16
4.00	21	20	19	20	20	19	20	19	19	17
5.00	21	21	20	21	20	20	20	19	19	17
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2023-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

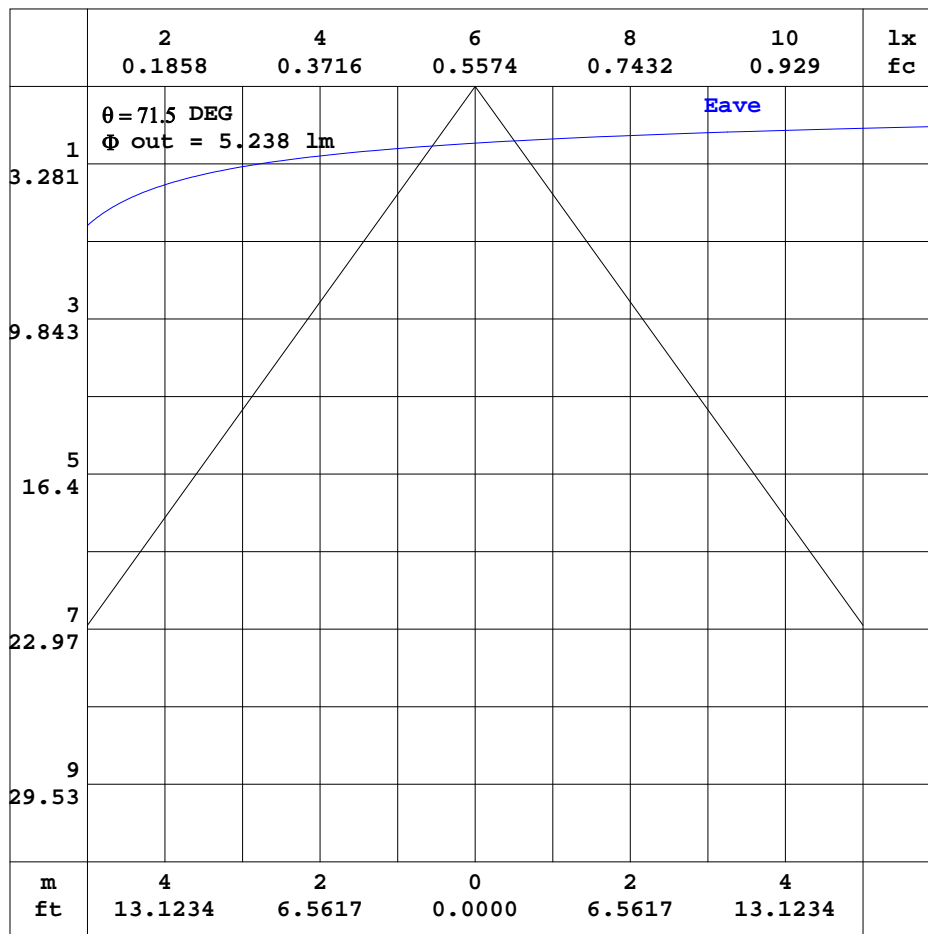


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2023-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

AAI CURVES

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



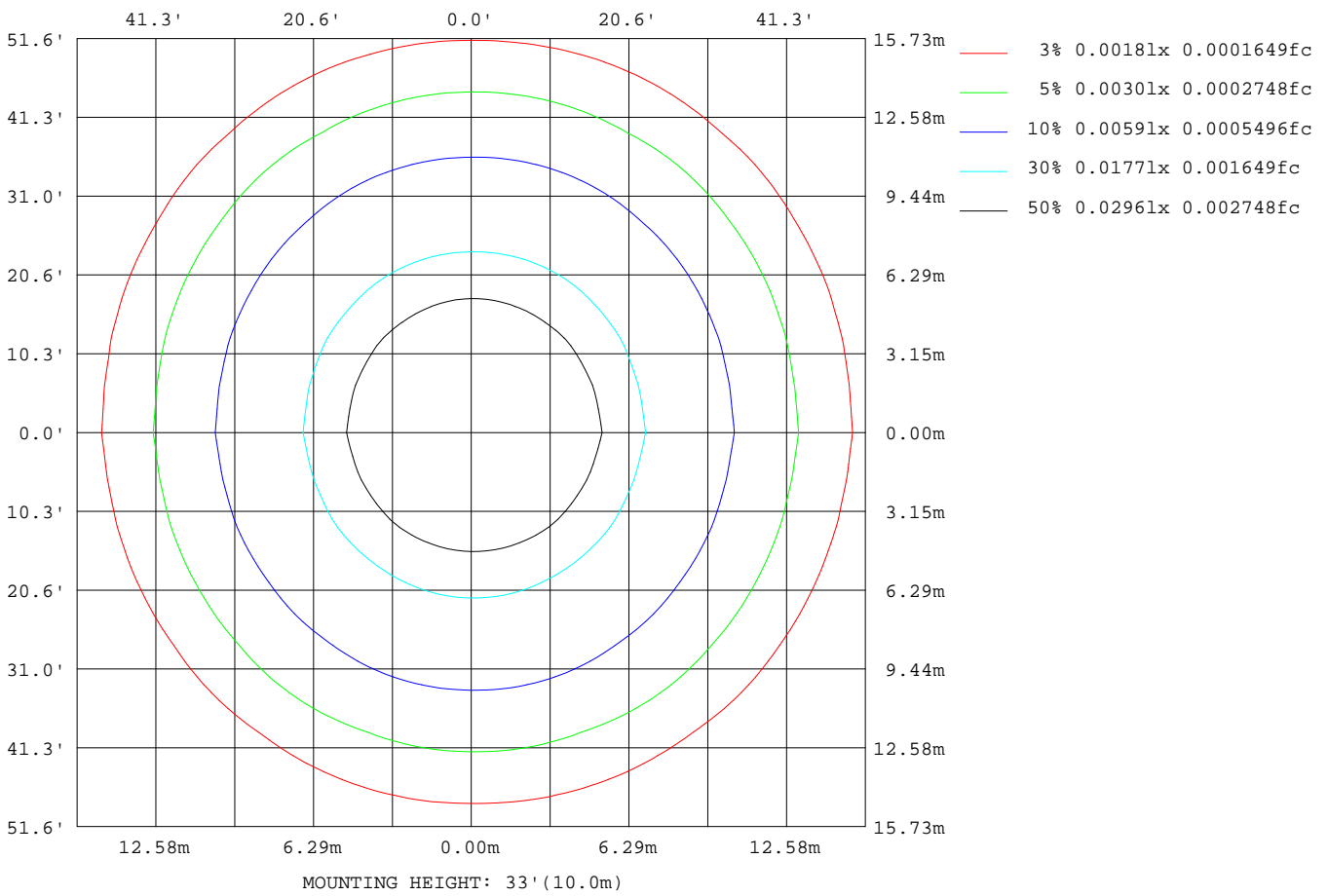
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2023-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2023-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:11.96V I:0.1336A P:0.8743W PF:0.5469 Lamp Flux:235x1 lm		
NAME: 489880-2700K	TYPE:489880-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

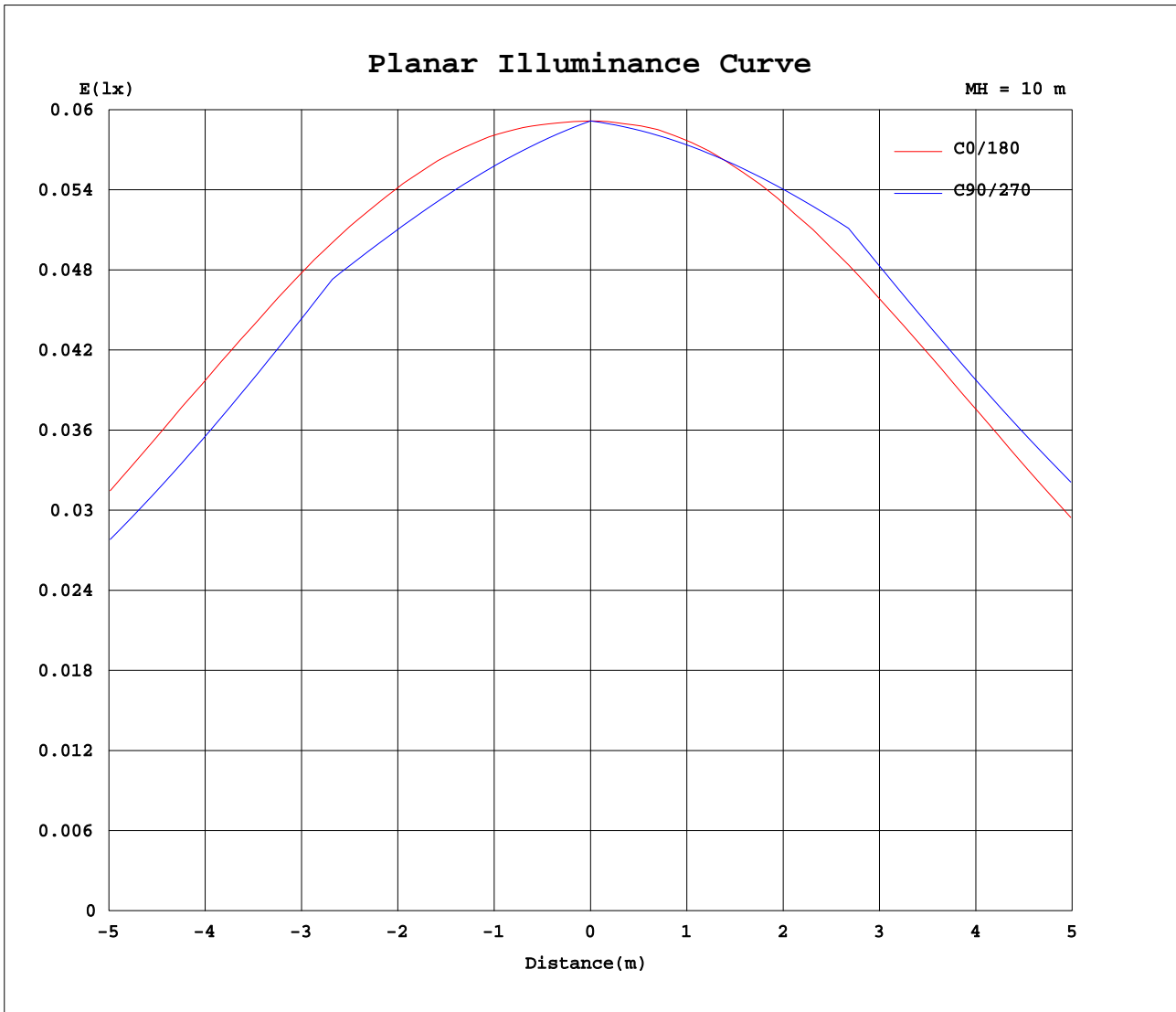
AvgL	cd/m2
L_0~180(65)av	8
L_0~180(75)av	7
L_0~180(85)av	6
L_90~270(65)av	8
L_90~270(75)av	7
L_90~270(85)av	0
L_45(65)av	8
L_45(75)av	7
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2023-11-30

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 20DEG
 Operators: Y
 Test Date: 2023-11-30

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity: 65.0%
 Test Distance: 8.750m [K=1.0000]
 Remarks:

