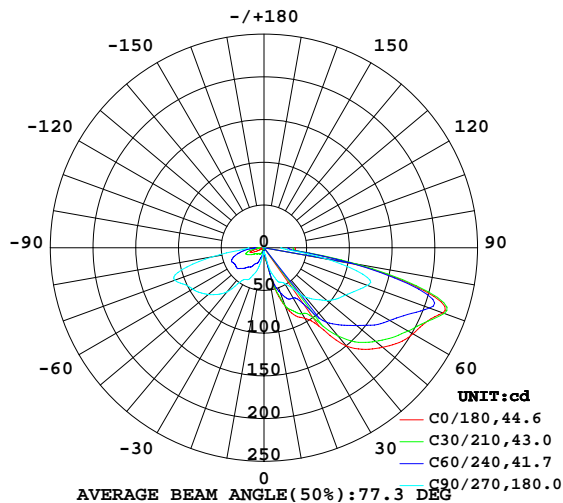


LUMINAIRE PHOTOMETRIC TEST REPORT

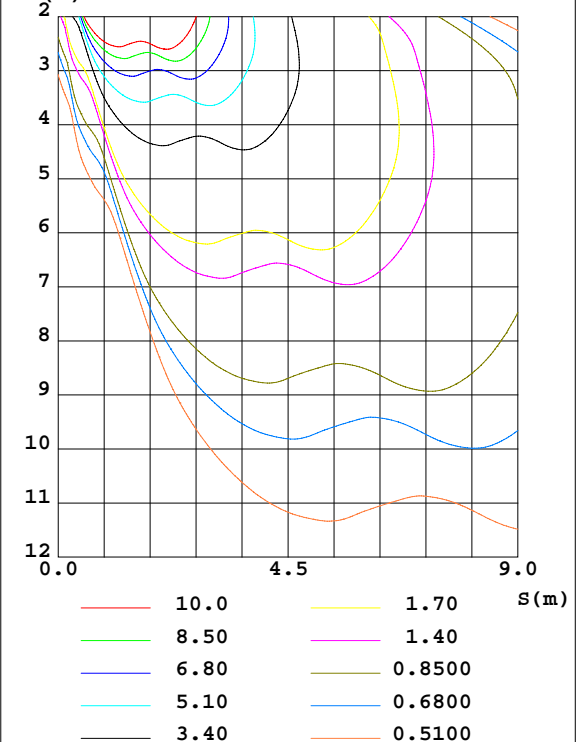
Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 39.75 lm/W			
MODEL		I _{max} (cd)	232.6	S/MH(C0/180)	6.77
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	6.17
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	469.57	η UP,DN(C0-180)	0.0,58.9
NOMINAL FLUX(lm)	469.565	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,41.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	230.0	η down(%)	100.0	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-03-07

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

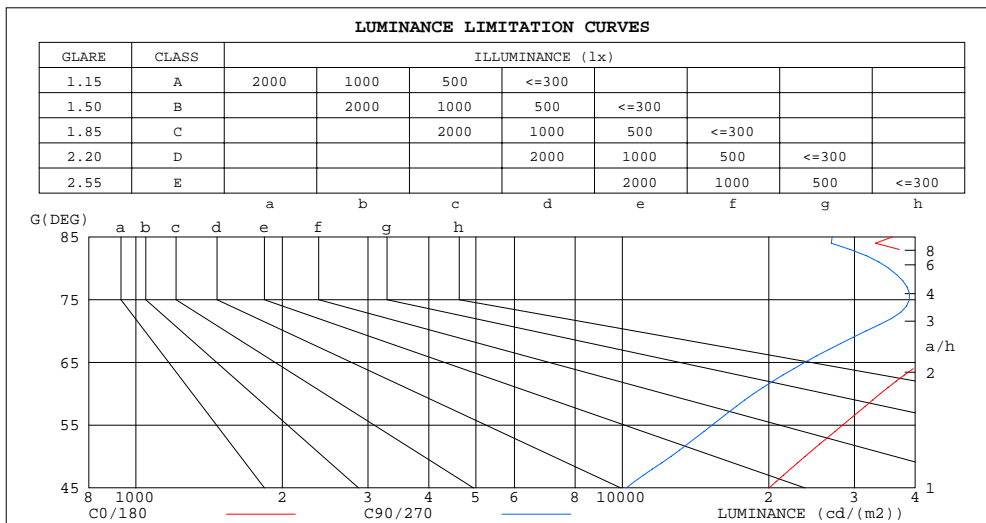
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	16.11	13.60	8.646	3.630	1.022	3.081	7.882	13.12	0- 10	0.6402	0.6402	0.14,0.14
20	72.92	63.88	37.45	11.74	0.6700	8.781	31.91	59.06	10- 20	7.073	7.714	1.64,1.64
30	95.55	78.59	48.08	16.88	0.7310	15.64	42.90	72.30	20- 30	19.64	27.35	5.82,5.82
40	150.2	124.2	75.07	24.34	1.168	19.14	67.64	119.6	30- 40	35.91	63.26	13.5,13.5
50	181.3	156.1	96.18	27.95	1.625	24.45	85.10	153.4	40- 50	63.89	127.2	27.1,27.1
60	201.4	182.6	110.6	32.23	3.741	27.51	96.53	180.0	50- 60	88.09	215.3	45.8,45.8
70	222.9	215.5	128.8	35.32	16.32	31.07	111.0	217.4	60- 70	112.5	327.7	69.8,69.8
80	105.9	106.6	72.76	24.37	8.931	20.93	61.15	97.24	70- 80	108.6	436.3	92.9,92.9
90	36.53	31.04	19.52	7.637	2.079	7.002	17.57	29.13	80- 90	33.23	469.6	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: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
 Humidity:65.0%
 Test Distance:11.700m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	35929	26999
80	51312	35262
75	63068	38919
70	54852	31696
65	41434	23722
60	33899	18615
55	28369	15297
50	23737	12592
45	20022	10183

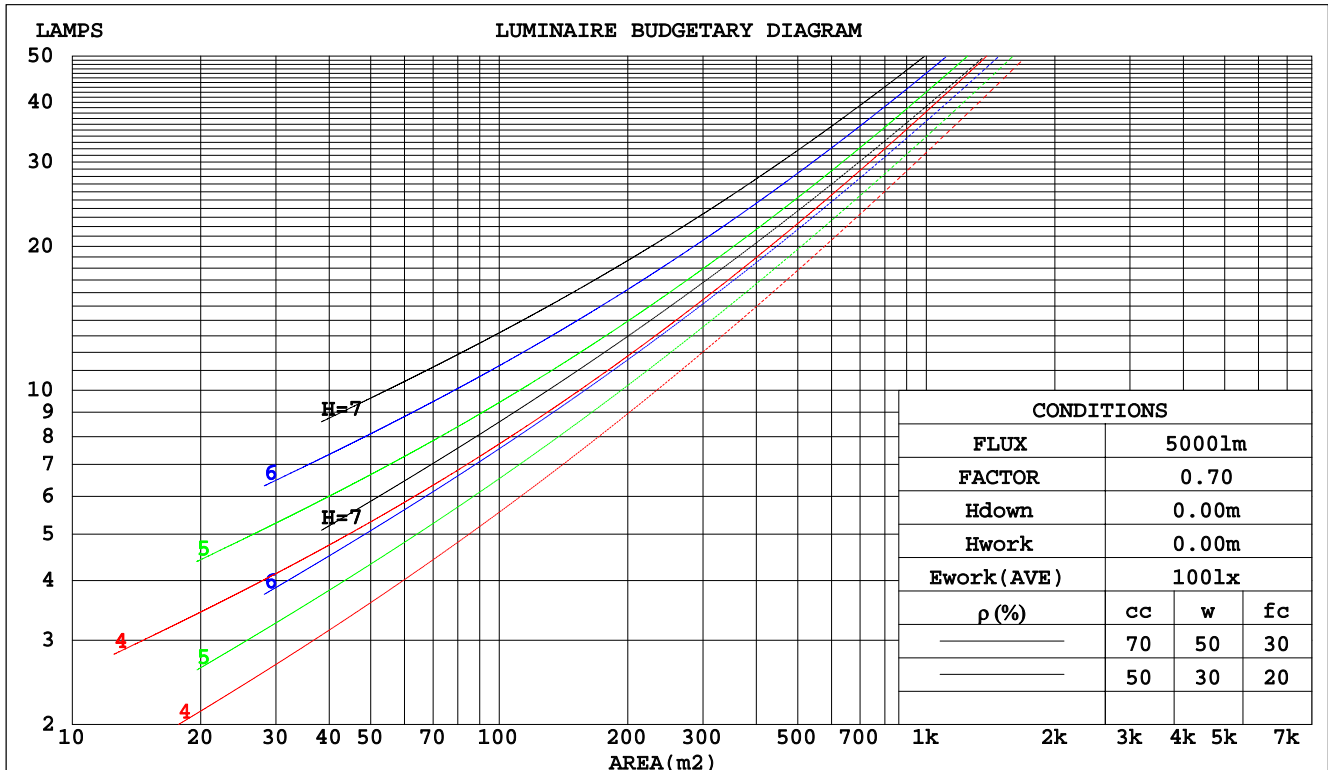
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	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	.00
1.0	.95	.88	.82	.92	.86	.80	.88	.82	.78	.84	.79	.75	.80	.76	.73	.70
2.0	.76	.66	.58	.74	.65	.57	.70	.62	.55	.67	.60	.54	.63	.58	.53	.50
3.0	.63	.51	.42	.61	.50	.42	.58	.48	.41	.55	.47	.40	.52	.45	.39	.36
4.0	.53	.41	.32	.51	.40	.32	.49	.39	.31	.46	.37	.31	.43	.36	.30	.27
5.0	.45	.34	.25	.44	.33	.25	.42	.32	.25	.39	.31	.24	.37	.30	.24	.21
6.0	.40	.28	.20	.39	.28	.20	.36	.27	.20	.35	.26	.19	.33	.25	.19	.17
7.0	.35	.24	.17	.34	.24	.17	.32	.23	.16	.31	.22	.16	.29	.22	.16	.13
8.0	.31	.21	.14	.30	.21	.14	.29	.20	.14	.28	.19	.13	.26	.19	.13	.11
9.0	.28	.18	.12	.27	.18	.12	.26	.18	.12	.25	.17	.11	.24	.17	.11	.09
10.0	.26	.16	.10	.25	.16	.10	.24	.16	.10	.23	.15	.10	.22	.15	.10	.08



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-03-07

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.: 180*180*97			SERIAL No.:		
MFR.: A5132479-05			SUR.:3.14*0.087*0.087/2			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	.486	.277	.088	.479	.273	.087	.465	.267	.085	.452	.260	.084	.440	.255	.082		
2.0	.428	.235	.072	.421	.232	.071	.408	.227	.070	.396	.222	.070	.385	.218	.069		
3.0	.376	.200	.060	.370	.198	.060	.358	.194	.059	.347	.190	.058	.337	.187	.058		
4.0	.333	.173	.051	.327	.171	.051	.317	.168	.050	.307	.165	.050	.298	.162	.049		
5.0	.297	.151	.044	.292	.150	.044	.283	.147	.043	.274	.145	.043	.266	.142	.043		
6.0	.268	.134	.038	.264	.133	.038	.255	.131	.038	.248	.129	.038	.241	.127	.038		
7.0	.244	.120	.034	.240	.119	.034	.232	.118	.034	.226	.116	.034	.219	.114	.033		
8.0	.223	.109	.031	.220	.108	.031	.213	.107	.030	.207	.105	.030	.201	.103	.030		
9.0	.206	.100	.028	.203	.099	.028	.197	.097	.028	.191	.096	.027	.186	.095	.027		
10.0	.191	.091	.025	.188	.091	.025	.183	.090	.025	.178	.088	.025	.173	.087	.025		

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	.193	.155	.120	.165	.133	.104	.113	.091	.072	.065	.053	.042	.021	.017	.013		
2.0	.190	.131	.082	.163	.113	.070	.112	.078	.049	.064	.045	.029	.021	.015	.009		
3.0	.185	.115	.059	.159	.099	.051	.109	.069	.036	.063	.040	.021	.020	.013	.007		
4.0	.177	.103	.046	.152	.089	.040	.105	.062	.028	.061	.036	.017	.019	.012	.005		
5.0	.169	.093	.037	.145	.081	.032	.100	.056	.023	.058	.033	.014	.019	.011	.004		
6.0	.161	.085	.031	.138	.074	.027	.095	.052	.019	.055	.030	.011	.018	.010	.004		
7.0	.152	.079	.027	.131	.068	.024	.091	.048	.017	.053	.028	.010	.017	.009	.003		
8.0	.144	.073	.024	.124	.063	.021	.086	.044	.015	.050	.026	.009	.016	.009	.003		
9.0	.137	.068	.021	.118	.059	.019	.082	.041	.013	.048	.024	.008	.015	.008	.003		
10.0	.130	.064	.019	.112	.055	.017	.078	.039	.012	.045	.023	.007	.015	.008	.002		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-03-07

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm											
NAME:			TYPE:			WEIGHT:					
SPEC.:			DIM.: 180*180*97			SERIAL No.:					
MFR.: A5132479-05			SUR.:3.14*0.087*0.087/2			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		27.6	29.6	27.9	29.9	30.1	25.5	27.5	25.8	27.8	28.0
	3H	31.5	33.4	31.8	33.6	33.9	29.2	31.1	29.5	31.3	31.6
	4H	33.3	35.1	33.6	35.4	35.7	30.9	32.7	31.3	33.0	33.3
	6H	34.3	36.0	34.6	36.3	36.6	31.9	33.6	32.2	33.9	34.2
	8H	34.4	36.1	34.8	36.4	36.7	32.1	33.8	32.5	34.1	34.4
	12H	34.5	36.1	34.9	36.4	36.8	32.2	33.8	32.6	34.1	34.5
4H	2H	28.8	30.6	29.1	30.9	31.2	27.6	29.4	27.9	29.7	29.9
	3H	32.8	34.4	33.2	34.8	35.1	31.3	32.9	31.7	33.3	33.6
	4H	34.7	36.2	35.1	36.5	36.9	33.0	34.5	33.4	34.9	35.2
	6H	35.7	37.1	36.1	37.4	37.8	34.0	35.4	34.4	35.7	36.1
	8H	35.9	37.2	36.4	37.6	38.0	34.2	35.5	34.7	35.9	36.3
	12H	36.0	37.2	36.5	37.6	38.0	34.3	35.5	34.8	35.9	36.4
8H	4H	35.2	36.5	35.6	36.9	37.3	34.0	35.2	34.4	35.6	36.0
	6H	36.4	37.5	36.8	37.9	38.3	35.1	36.2	35.5	36.6	37.0
	8H	36.7	37.7	37.2	38.1	38.6	35.4	36.4	35.8	36.8	37.3
	12H	36.8	37.7	37.3	38.1	38.6	35.5	36.4	36.0	36.8	37.3
12H	4H	35.2	36.4	35.7	36.8	37.3	34.1	35.2	34.5	35.6	36.1
	6H	36.5	37.4	36.9	37.9	38.3	35.2	36.2	35.7	36.6	37.1
	8H	36.8	37.6	37.3	38.1	38.6	35.6	36.4	36.0	36.9	37.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.1 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.1 / - 0.2					+ 0.3 / - 0.4					

CIE Pub.117, 469.6 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -2.6$)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
 Humidity:65.0%
 Test Distance:11.700m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	Shielding Angle:

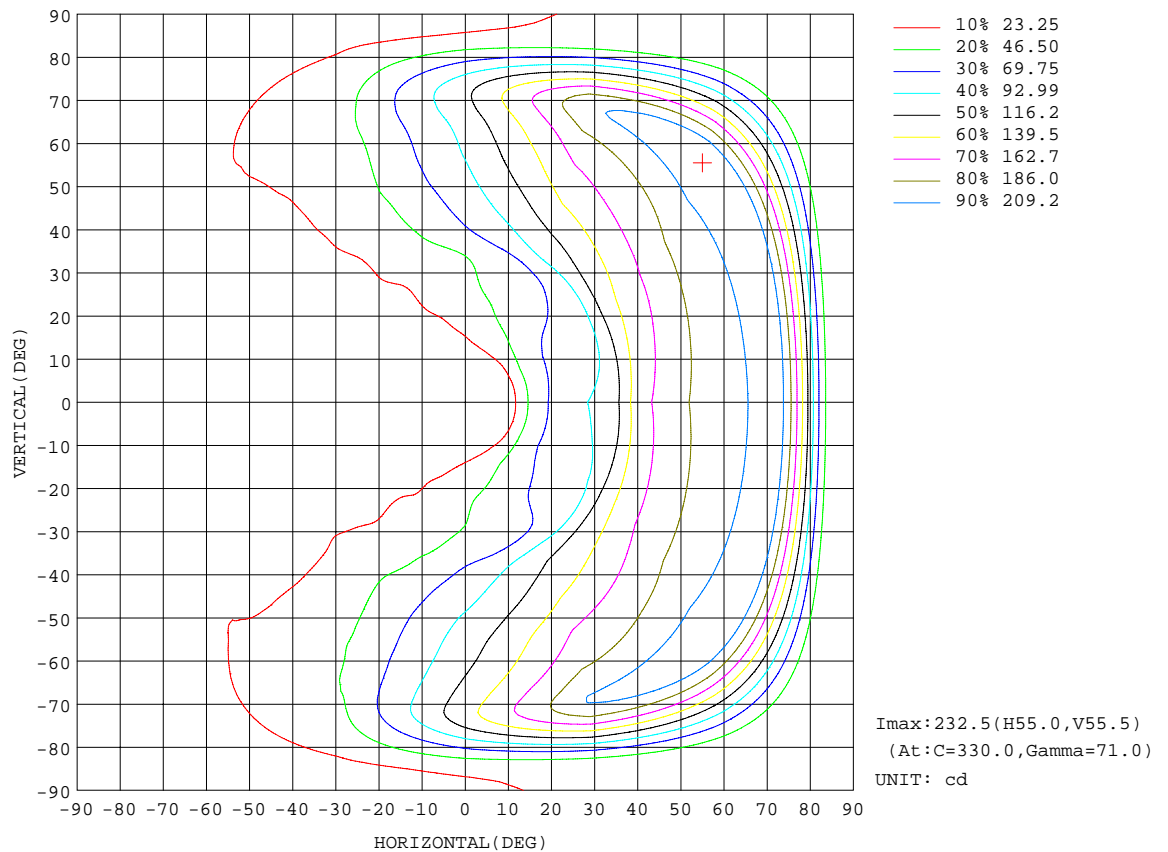
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	41	26	18	40	26	18	39	26	17	9
0.80	50	34	25	49	34	25	46	33	24	15
1.00	58	42	32	56	42	32	54	44	31	22
1.25	66	51	40	64	50	40	61	48	39	29
1.50	72	57	47	70	56	46	66	54	45	35
2.00	81	68	58	79	66	57	74	64	56	45
2.50	87	75	66	84	73	65	80	70	63	52
3.00	92	81	72	89	79	71	84	76	69	58
4.00	98	89	81	95	87	80	90	83	77	67
5.00	102	94	88	99	92	86	94	88	83	72
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	Shielding Angle:

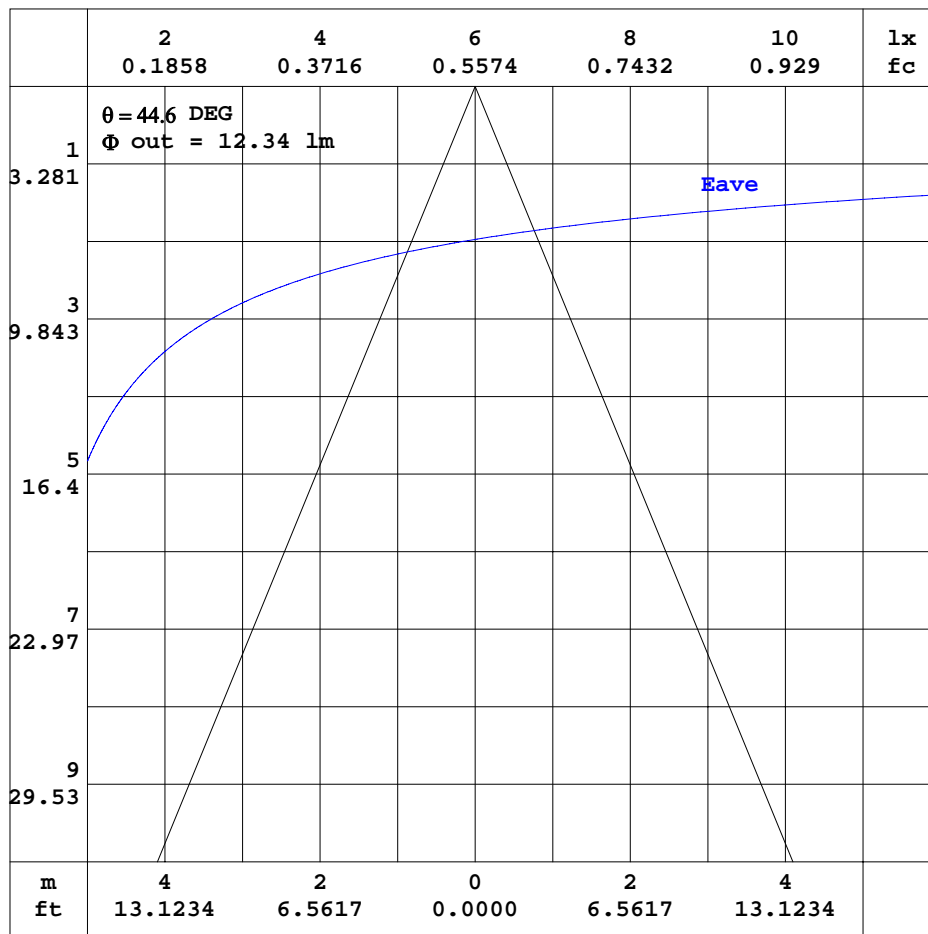


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity: 65.0%
Test Distance: 11.700m [K=1.0000]
Remarks:

AAI CURVES

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	Shielding Angle:



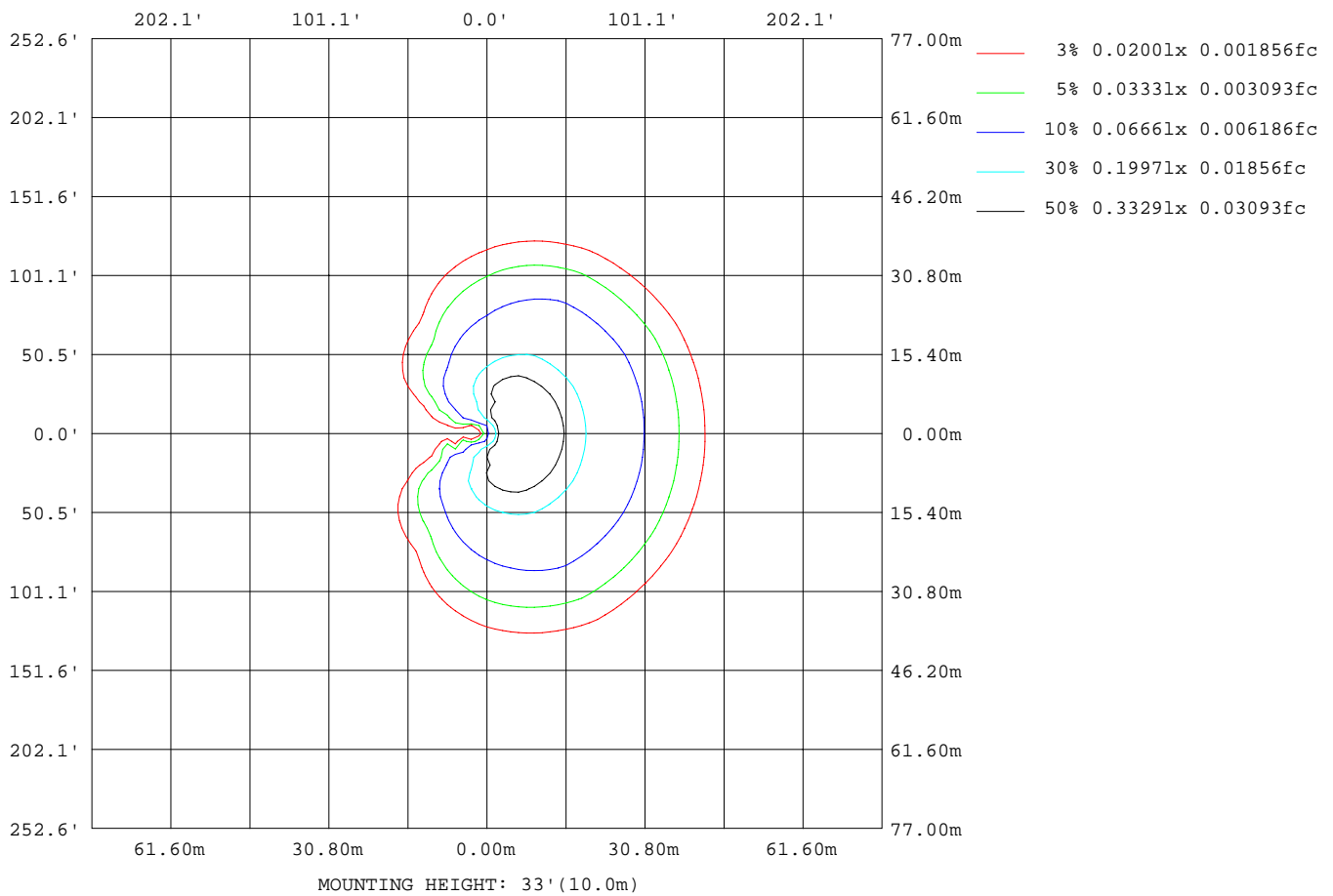
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
 Humidity: 65.0%
 Test Distance: 11.700m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity: 65.0%
Test Distance: 11.700m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:229.81V I:0.0536A P:11.812W PF:0.9582 Freq:49.99Hz Lamp Flux:469.565x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A5132479-05	SUR.:3.14*0.087*0.087/2	Shielding Angle:

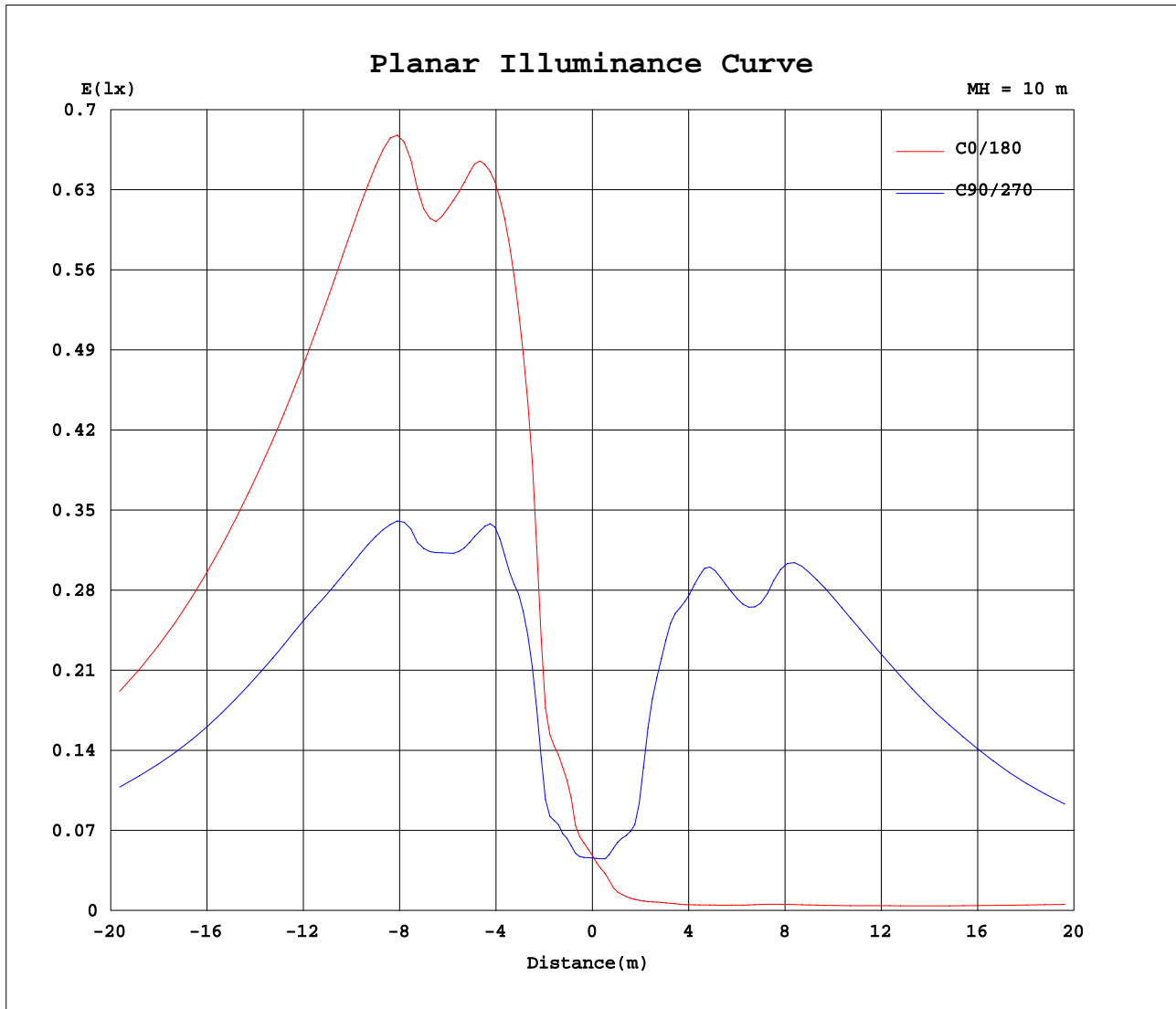
AvgL	cd/m2
L_0~180(65)av	21561
L_0~180(75)av	34044
L_0~180(85)av	20378
L_90~270(65)av	22033
L_90~270(75)av	35650
L_90~270(85)av	25638
L_45(65)av	22824
L_45(75)av	35520
L_45(85)av	23368

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-03-07

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-03-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity: 65.0%
Test Distance: 11.700m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

```