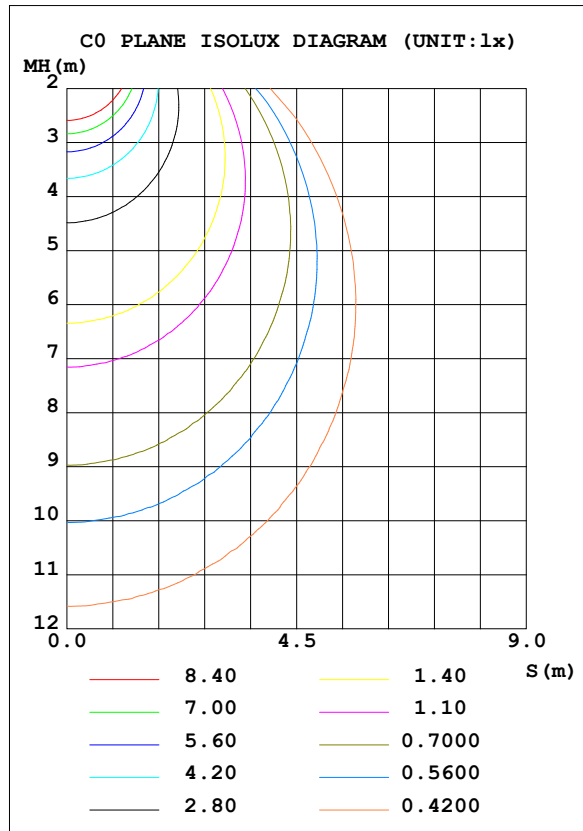
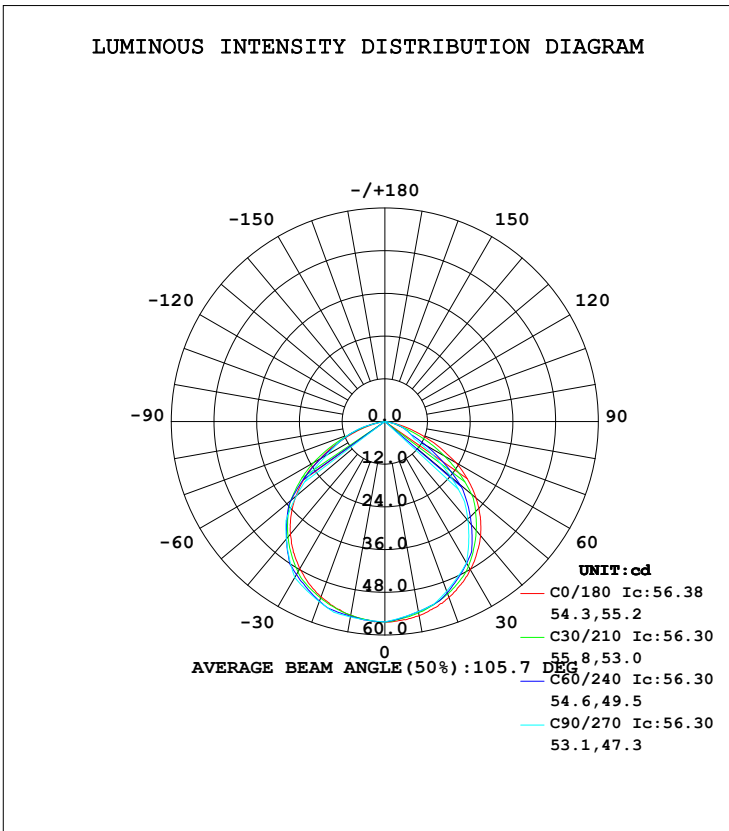


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	490082-2700K	Imax (cd)	56.38	S/MH (C0/180)	1.26
NOMINAL POWER (W)	5	LOR (%)	28.2	S/MH (C90/270)	1.31
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	140.93	η UP, DN (C0-180)	0.0,13.1
NOMINAL FLUX (lm)	500	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0,15.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220	η down (%)	28.2	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:G  
Test Date:2022-05-24

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	55.99	55.43	55.26	55.46	56.00	56.02	56.03	55.95	0- 5	1.339	1.339	0.95,0.27
10	55.43	54.36	54.21	54.32	55.31	55.43	55.75	55.39	5- 10	3.959	5.298	3.76,1.06
15	54.20	53.15	53.16	52.99	54.11	54.58	55.48	54.67	10- 15	6.461	11.76	8.34,2.35
20	52.55	51.64	50.73	51.50	52.41	53.53	53.86	53.79	15- 20	8.764	20.52	14.6,4.1
25	50.58	49.09	48.29	48.95	50.36	51.47	52.25	51.72	20- 25	10.76	31.28	22.2,6.26
30	47.97	46.16	45.86	45.96	47.82	49.03	50.63	49.33	25- 30	12.41	43.68	31,8.74
35	45.11	43.08	41.10	42.81	44.90	46.46	46.86	46.76	30- 35	13.62	57.31	40.7,11.5
40	41.83	39.61	36.35	39.24	41.29	43.39	43.08	43.79	35- 40	14.25	71.55	50.8,14.3
45	37.96	34.27	31.59	33.77	37.27	38.97	39.31	39.41	40- 45	14.32	85.87	60.9,17.2
50	33.40	28.66	24.18	27.95	32.60	34.59	32.41	34.94	45- 50	13.74	99.61	70.7,19.9
55	28.46	22.83	16.78	21.93	27.47	29.91	25.51	30.42	50- 55	12.31	111.9	79.4,22.4
60	23.05	16.16	9.370	15.46	21.06	22.88	18.62	23.38	55- 60	10.20	122.1	86.7,24.4
65	16.75	9.880	7.612	9.390	15.01	15.82	14.65	16.66	60- 65	7.736	129.9	92.1,26
70	10.91	5.571	5.854	5.021	9.266	10.03	10.68	11.04	65- 70	5.544	135.4	96.1,27.1
75	5.826	3.417	4.096	3.041	4.520	6.047	6.713	6.637	70- 75	3.579	139.0	98.6,27.8
80	2.051	1.385	0	1.160	1.276	2.201	0	2.431	75- 80	1.685	140.7	99.8,28.1
85	0	0	0	0	0	0	0	0	80- 85	0.2588	140.9	100,28.2
90	0	0	0	0	0	0	0	0	85- 90	0.0050	140.9	100,28.2
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		

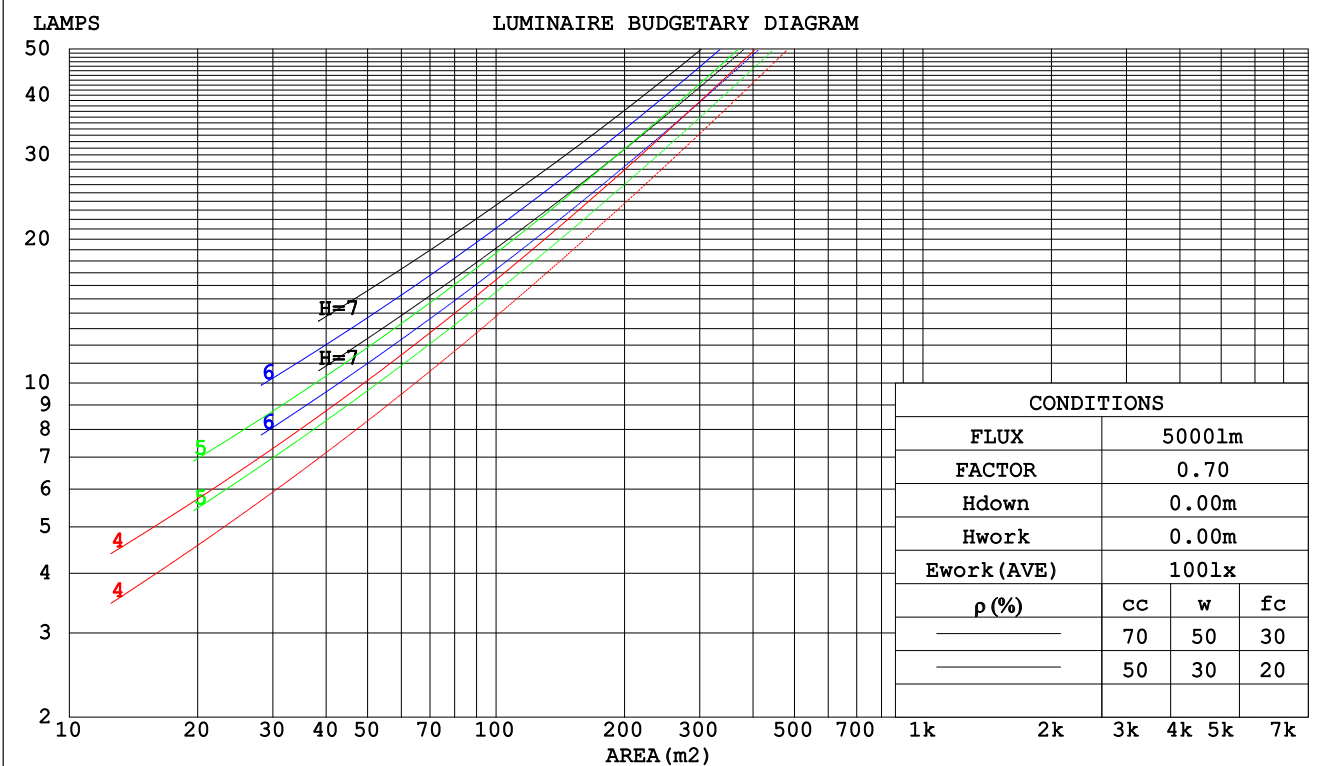
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: LOW  
 Temperature:25.3DEG  
 Operators:G  
 Test Date:2022-05-24

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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-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	.34	.34	.34	.33	.33	.33	.31	.31	.31	.30	.30	.30	.29	.29	.29	.28
1.0	.30	.29	.28	.29	.28	.27	.28	.27	.27	.27	.26	.26	.26	.26	.25	.24
2.0	.26	.25	.23	.26	.24	.23	.25	.24	.22	.24	.23	.22	.23	.22	.21	.21
3.0	.23	.21	.20	.23	.21	.19	.22	.20	.19	.21	.20	.19	.21	.19	.18	.18
4.0	.21	.19	.17	.20	.18	.17	.20	.18	.16	.19	.18	.16	.19	.17	.16	.15
5.0	.19	.16	.15	.18	.16	.14	.18	.16	.14	.17	.16	.14	.17	.15	.14	.13
6.0	.17	.14	.13	.17	.14	.13	.16	.14	.13	.16	.14	.12	.15	.14	.12	.12
7.0	.15	.13	.11	.15	.13	.11	.15	.13	.11	.14	.12	.11	.14	.12	.11	.10
8.0	.14	.12	.10	.14	.12	.10	.13	.11	.10	.13	.11	.10	.13	.11	.10	.09
9.0	.13	.11	.09	.13	.11	.09	.12	.10	.09	.12	.10	.09	.12	.10	.09	.08
10.0	.12	.10	.08	.12	.10	.08	.11	.10	.08	.11	.09	.08	.11	.09	.08	.08



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:G  
Test Date:2022-05-24

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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-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	.075	.043	.014	.073	.042	.013	.070	.040	.013	.066	.038	.012	.063	.037	.012	
2.0	.073	.040	.012	.072	.040	.012	.069	.038	.012	.066	.037	.012	.063	.036	.011	
3.0	.070	.037	.011	.068	.036	.011	.065	.035	.011	.063	.034	.011	.060	.033	.010	
4.0	.065	.034	.010	.064	.033	.010	.061	.033	.010	.059	.032	.010	.057	.031	.009	
5.0	.061	.031	.009	.060	.031	.009	.058	.030	.009	.055	.029	.009	.054	.029	.009	
6.0	.057	.029	.008	.056	.028	.008	.054	.028	.008	.052	.027	.008	.050	.027	.008	
7.0	.054	.026	.007	.053	.026	.007	.051	.026	.007	.049	.025	.007	.048	.025	.007	
8.0	.050	.025	.007	.049	.024	.007	.048	.024	.007	.046	.023	.007	.045	.023	.007	
9.0	.047	.023	.006	.047	.023	.006	.045	.022	.006	.044	.022	.006	.043	.022	.006	
10.0	.045	.021	.006	.044	.021	.006	.043	.021	.006	.041	.021	.006	.040	.020	.006	

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	.054	.054	.054	.046	.046	.046	.031	.031	.031	.018	.018	.018	.006	.006	.006	
1.0	.050	.044	.039	.043	.038	.033	.029	.026	.023	.017	.015	.013	.005	.005	.004	
2.0	.047	.037	.029	.041	.032	.025	.028	.022	.017	.016	.013	.010	.005	.004	.003	
3.0	.045	.032	.022	.039	.028	.019	.027	.019	.013	.015	.011	.008	.005	.004	.003	
4.0	.043	.028	.017	.037	.024	.015	.025	.017	.011	.015	.010	.006	.005	.003	.002	
5.0	.041	.025	.014	.035	.022	.012	.024	.015	.009	.014	.009	.005	.005	.003	.002	
6.0	.039	.023	.011	.034	.020	.010	.023	.014	.007	.013	.008	.004	.004	.003	.001	
7.0	.037	.021	.010	.032	.018	.008	.022	.013	.006	.013	.008	.004	.004	.002	.001	
8.0	.035	.019	.008	.031	.017	.007	.021	.012	.005	.012	.007	.003	.004	.002	.001	
9.0	.034	.018	.007	.029	.016	.006	.020	.011	.005	.012	.006	.003	.004	.002	.001	
10.0	.032	.017	.006	.028	.015	.006	.019	.010	.004	.011	.006	.002	.004	.002	.001	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: LOW  
 Temperature:25.3DEG  
 Operators:G  
 Test Date:2022-05-24

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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm										
NAME: 490128-4W-2700K					TYPE:490128-4W-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	7.9	9.3	8.1	9.5	9.7	5.4	6.9	5.7	7.1	7.3
3H	8.8	10.2	9.1	10.4	10.6	6.0	7.3	6.2	7.5	7.7
4H	9.1	10.3	9.4	10.6	10.8	6.2	7.4	6.5	7.7	7.9
6H	9.1	10.3	9.4	10.5	10.8	6.2	7.3	6.5	7.6	7.9
8H	9.1	10.2	9.4	10.5	10.8	6.1	7.3	6.5	7.5	7.8
12H	9.0	10.1	9.4	10.4	10.7	6.1	7.2	6.4	7.4	7.7
4H 2H	8.0	9.2	8.3	9.5	9.7	5.9	7.1	6.2	7.4	7.6
3H	9.0	10.1	9.4	10.4	10.7	6.5	7.6	6.9	7.9	8.2
4H	9.3	10.3	9.7	10.6	10.9	6.8	7.8	7.2	8.1	8.5
6H	9.4	10.2	9.8	10.6	10.9	6.9	7.7	7.3	8.1	8.4
8H	9.3	10.1	9.8	10.5	10.9	6.8	7.6	7.2	8.0	8.4
12H	9.3	10.0	9.7	10.4	10.8	6.8	7.5	7.2	7.9	8.3
8H 4H	9.2	10.0	9.7	10.4	10.8	6.9	7.7	7.3	8.1	8.4
6H	9.3	10.0	9.8	10.4	10.8	7.0	7.6	7.4	8.0	8.4
8H	9.3	9.9	9.8	10.3	10.8	6.9	7.5	7.4	7.9	8.4
12H	9.3	9.8	9.8	10.2	10.7	6.9	7.4	7.3	7.8	8.3
12H 4H	9.2	9.9	9.6	10.3	10.7	6.9	7.6	7.3	8.0	8.4
6H	9.3	9.9	9.8	10.3	10.8	6.9	7.5	7.4	7.9	8.4
8H	9.3	9.8	9.8	10.2	10.7	6.9	7.4	7.4	7.8	8.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.5 / - 0.7				
1.5H	+ 0.3 / - 0.5					+ 0.4 / - 0.5				
2.0H	+ 0.8 / - 1.0					+ 1.4 / - 2.4				

CIE Pub.117 Corrected 500.0 lm Total Lamp Luminous Flux. (8log(F/F0) = -2.4)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:G  
Test Date:2022-05-24

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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

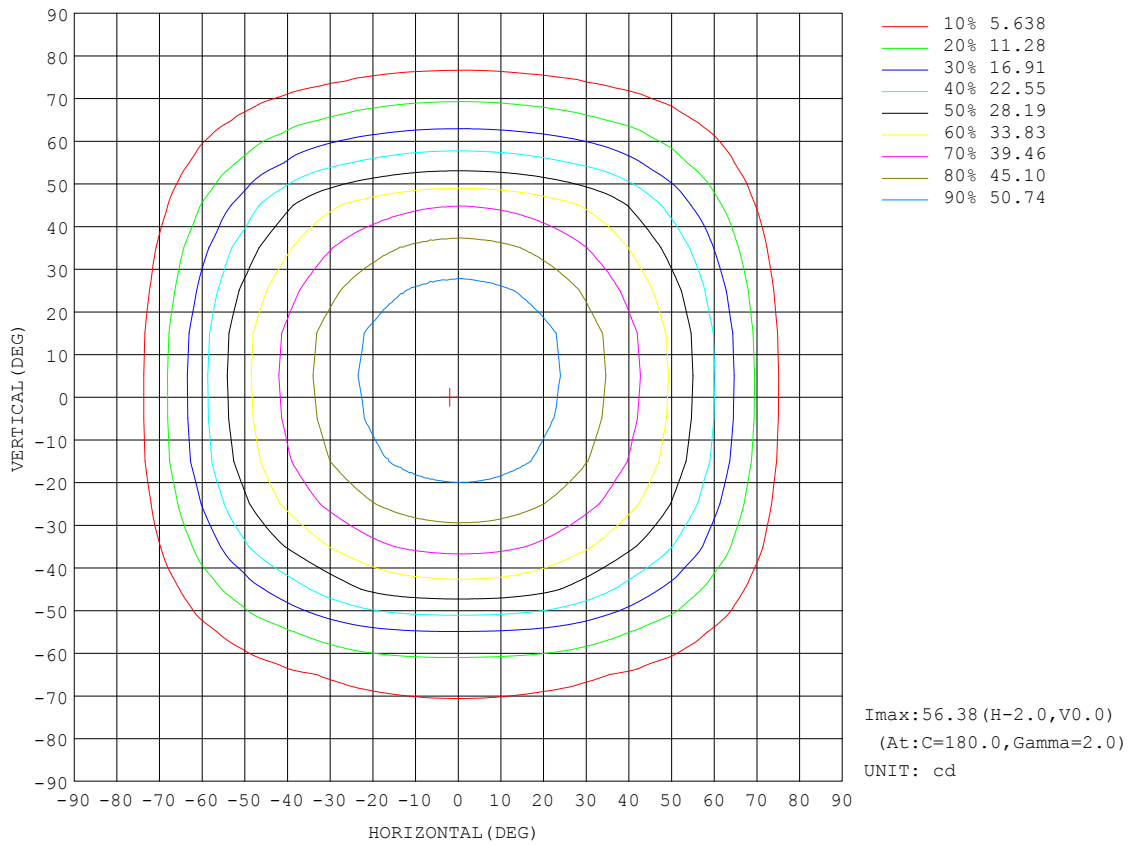
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) k(RI) x RCR = 5									
k = 0.60	17	14	12	17	14	12	17	14	12	10
0.80	20	17	15	20	17	15	19	17	15	13
1.00	22	20	18	22	19	18	22	20	17	16
1.25	24	22	20	24	22	20	23	21	20	18
1.50	26	23	22	25	23	21	25	23	21	19
2.00	28	26	24	27	25	24	26	25	23	21
2.50	29	27	25	28	26	25	27	26	24	22
3.00	29	28	26	29	27	26	28	27	26	23
4.00	30	29	28	30	29	28	29	28	27	24
5.00	31	30	29	30	29	28	29	28	28	25
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: LOW  
 Temperature:25.3DEG  
 Operators:G  
 Test Date:2022-05-24

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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

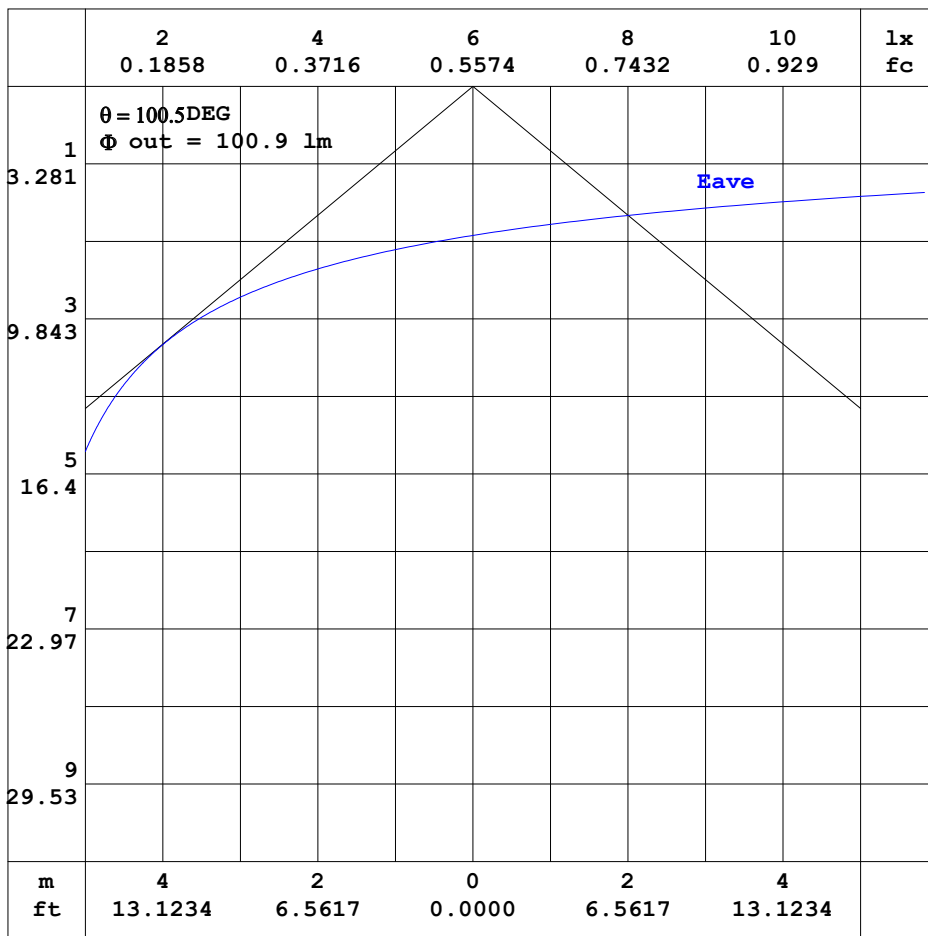


C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:G  
Test Date:2022-05-24

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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-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.

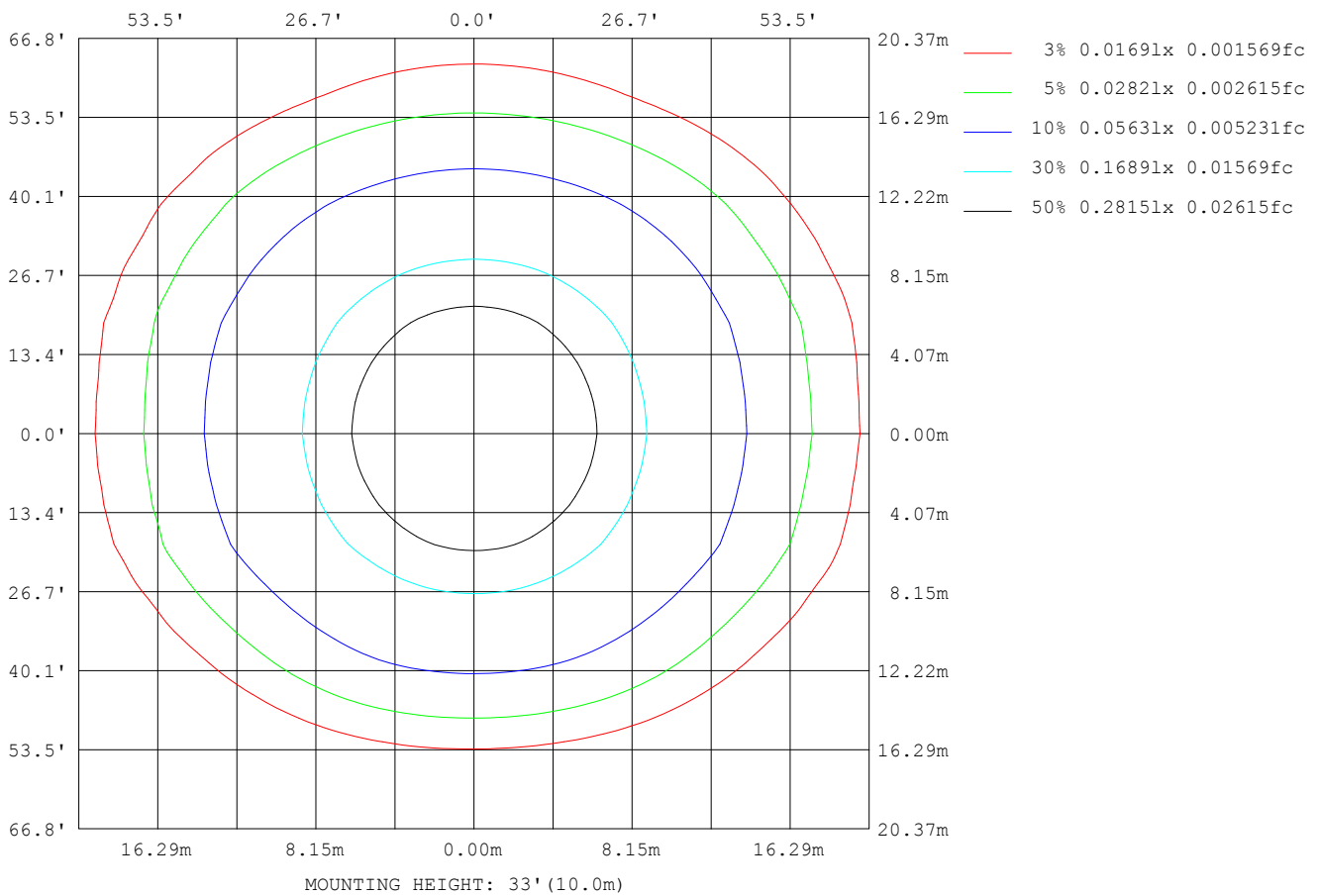
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: LOW  
 Temperature:25.3DEG  
 Operators:G  
 Test Date:2022-05-24

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:G  
Test Date:2022-05-24

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:11.94V I:0.2922A P:3.291W PF:0.9434 Lamp Flux:1000x1 lm		
NAME: 490128-4W-2700K	TYPE:490128-4W-2700K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

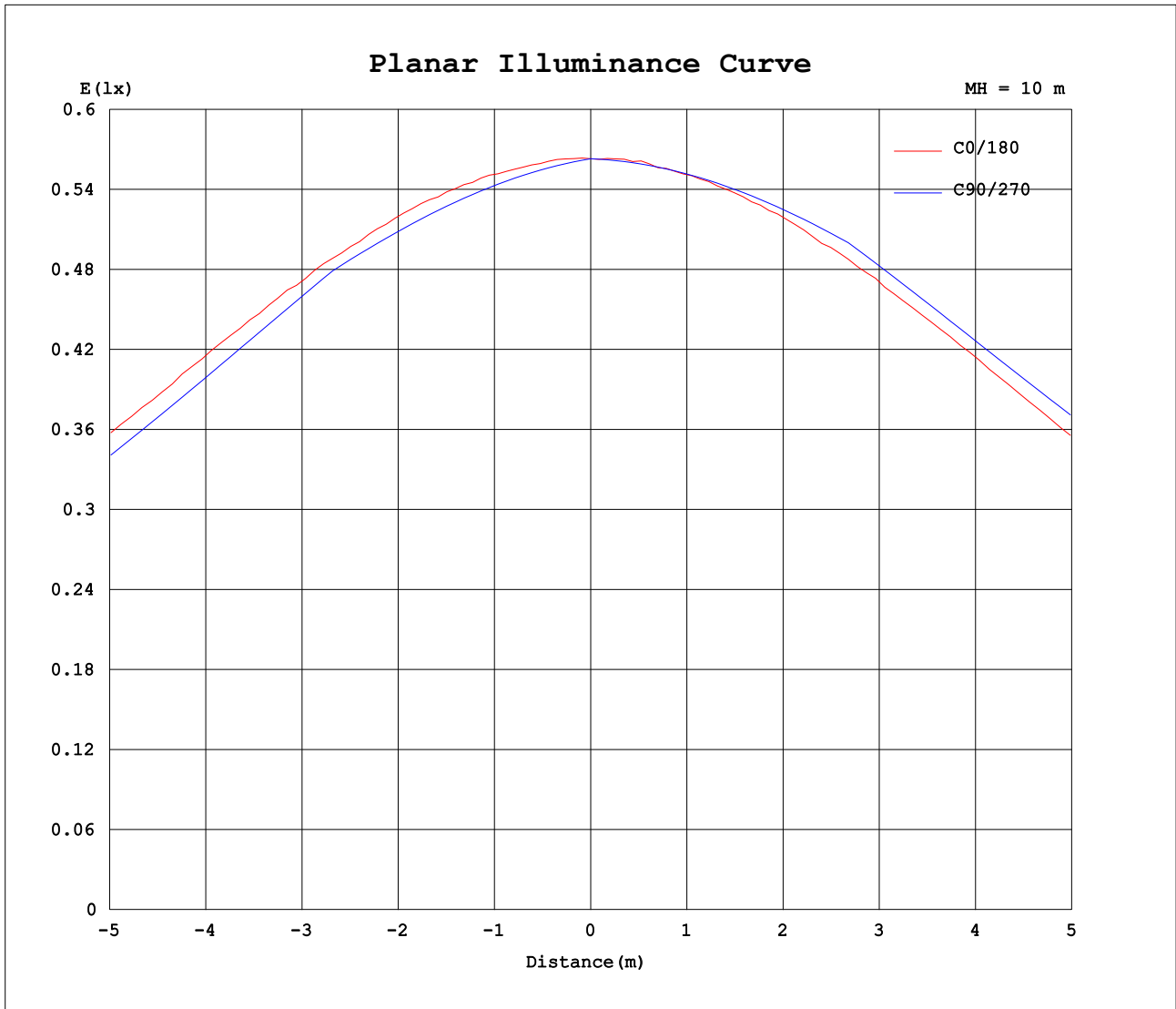
AvgL	cd/m2
L_0~180 (65) av	188
L_0~180 (75) av	100
L_0~180 (85) av	0
L_90~270 (65) av	132
L_90~270 (75) av	104
L_90~270 (85) av	0
L_45 (65) av	153
L_45 (75) av	92
L_45 (85) av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:G  
Test Date:2022-05-24

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: LOW  
 Temperature: 25.3DEG  
 Operators: G  
 Test Date: 2022-05-24

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity: 65.0%  
 Test Distance: 8.750m [K=1.0000]  
 Remarks:







