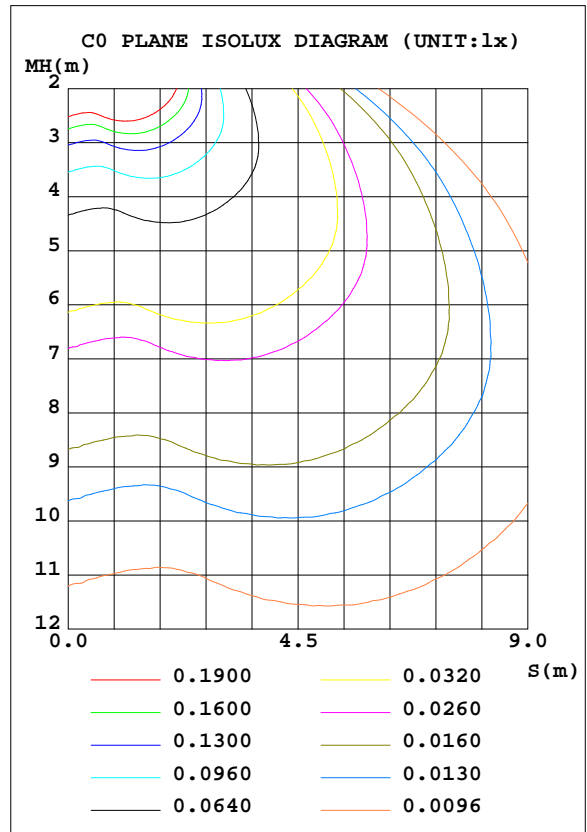
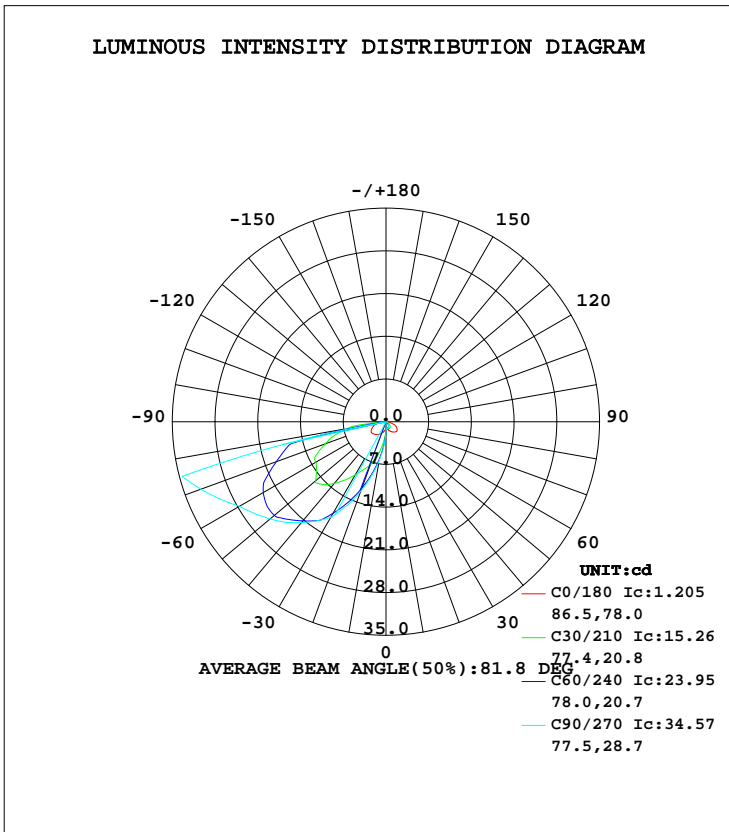


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 24.79 lm/W			
MODEL	489916-3000K	Imax(cd)	34.90	S/MH(C0/180)	2.59
NOMINAL POWER(W)	3	LOR(%)	7.5	S/MH(C90/270)	5.94
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	37.401	η UP, DN(C0-180)	0.0,0.4
NOMINAL FLUX(lm)	500	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,7.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	220	η down(%)	7.5	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:20DEG  
Operators:G  
Test Date:2022-11-07

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	1.166	1.155	1.178	1.237	1.303	3.177	3.837	3.038	0- 5	0.0422	0.0422	0.11,0.01
10	1.187	1.125	1.150	1.289	1.536	5.365	6.468	4.931	5- 10	0.1830	0.2252	0.60,0.05
15	1.331	1.097	1.123	1.348	1.772	7.655	9.100	6.862	10- 15	0.4122	0.6374	1.7,0.13
20	1.531	1.056	1.052	1.377	2.007	9.829	12.09	8.802	15- 20	0.7302	1.368	3.66,0.27
25	1.722	1.010	0.9813	1.350	2.213	11.98	15.08	10.94	20- 25	1.133	2.500	6.69,0.50
30	1.898	0.9508	0.9105	1.278	2.404	14.25	18.07	13.10	25- 30	1.609	4.109	11,0.82
35	2.063	0.8480	0.8058	1.162	2.576	16.66	19.82	15.15	30- 35	2.126	6.235	16.7,1.25
40	2.210	0.7139	0.7011	1.015	2.723	18.89	21.56	16.77	35- 40	2.623	8.858	23.7,1.77
45	2.331	0.5727	0.5965	0.8530	2.844	19.47	23.31	16.76	40- 45	3.081	11.94	31.9,2.39
50	2.362	0.4185	0.5031	0.6764	2.939	19.69	24.78	16.35	45- 50	3.473	15.41	41.2,3.08
55	2.245	0.2542	0.4097	0.4895	2.970	19.38	26.25	15.68	50- 55	3.744	19.16	51.2,3.83
60	2.067	0.2018	0.3163	0.3704	2.800	17.52	27.72	13.54	55- 60	3.890	23.05	61.6,4.61
65	1.825	0.1419	0.2363	0.2308	2.539	16.04	30.00	11.78	60- 65	3.953	27.00	72.2,5.4
70	1.425	0.0970	0.1564	0.1302	2.227	14.11	32.28	9.746	65- 70	3.872	30.87	82.5,6.17
75	0.9221	0.0812	0.0764	0.0948	1.890	11.64	34.57	7.244	70- 75	3.687	34.56	92.4,6.91
80	0.3916	0.0544	0	0.0425	1.355	7.693	0	4.221	75- 80	2.418	36.98	98.9,7.4
85	0.0421	0	0	0	0.7614	0	0	0	80- 85	0.3945	37.37	99.9,7.47
90	0	0	0	0	0.0045	0	0	0	85- 90	0.0303	37.40	100,7.48
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			

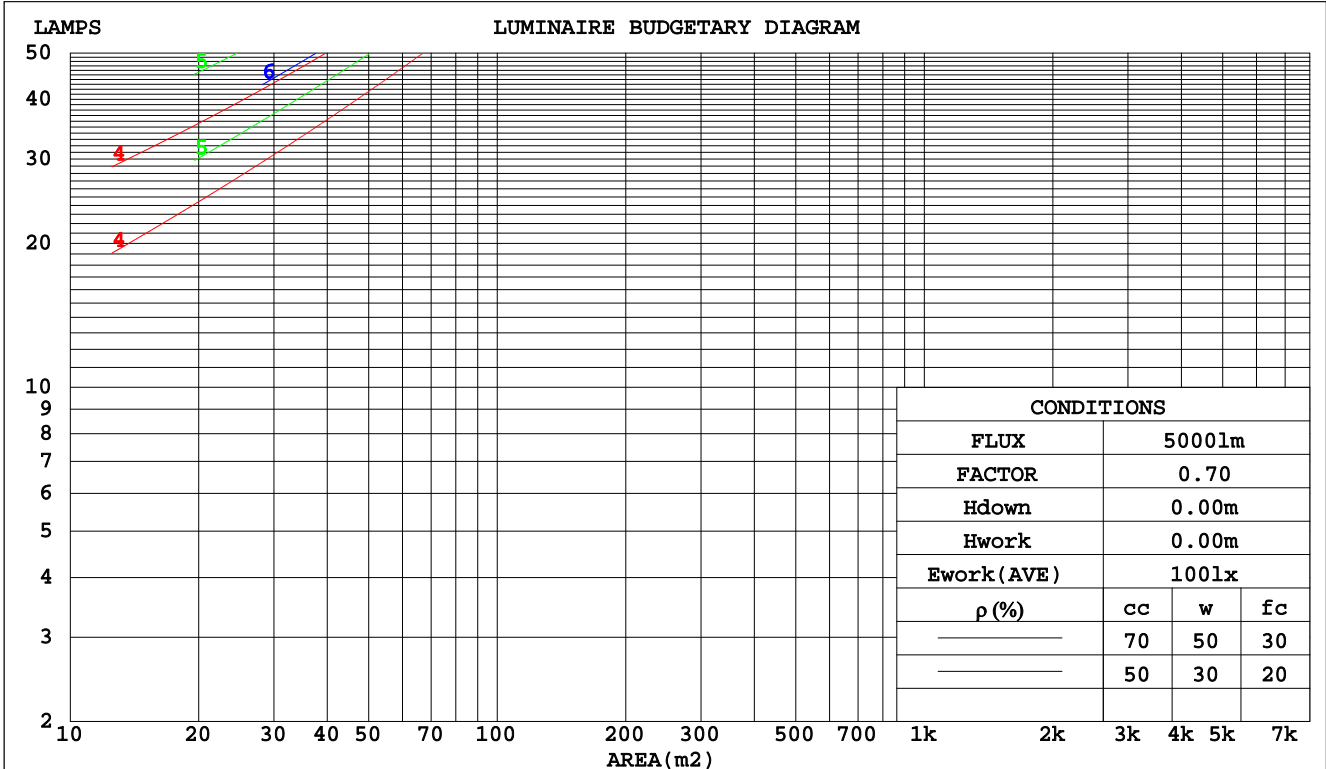
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: LOW  
 Temperature:20DEG  
 Operators:G  
 Test Date:2022-11-07

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:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	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	.09	.09	.09	.09	.09	.09	.08	.08	.08	.08	.08	.08	.08	.08	.08	.07
1.0	.07	.07	.07	.07	.07	.07	.07	.07	.06	.07	.06	.06	.06	.06	.06	.06
2.0	.06	.06	.05	.06	.05	.05	.06	.05	.05	.06	.05	.05	.05	.05	.05	.04
3.0	.05	.04	.04	.05	.04	.04	.05	.04	.04	.05	.04	.04	.04	.04	.04	.03
4.0	.04	.04	.03	.04	.04	.03	.04	.04	.03	.04	.03	.03	.04	.03	.03	.03
5.0	.04	.03	.02	.04	.03	.02	.04	.03	.02	.03	.03	.02	.03	.03	.02	.02
6.0	.03	.03	.02	.03	.03	.02	.03	.03	.02	.03	.02	.02	.03	.02	.02	.02
7.0	.03	.02	.02	.03	.02	.02	.03	.02	.02	.03	.02	.02	.03	.02	.02	.02
8.0	.03	.02	.01	.03	.02	.01	.03	.02	.01	.02	.02	.01	.02	.02	.01	.01
9.0	.02	.02	.01	.02	.02	.01	.02	.02	.01	.02	.02	.01	.02	.02	.01	.01
10.0	.02	.02	.01	.02	.02	.01	.02	.02	.01	.02	.01	.01	.02	.01	.01	.01



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:20DEG  
Operators:G  
Test Date:2022-11-07

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:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	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	.029	.016	.005	.028	.016	.005	.027	.016	.005	.026	.015	.005	.025	.015	.005	
2.0	.027	.015	.005	.027	.015	.005	.026	.014	.004	.025	.014	.004	.024	.014	.004	
3.0	.025	.013	.004	.024	.013	.004	.023	.013	.004	.023	.012	.004	.022	.012	.004	
4.0	.022	.012	.003	.022	.011	.003	.021	.011	.003	.021	.011	.003	.020	.011	.003	
5.0	.020	.010	.003	.020	.010	.003	.019	.010	.003	.019	.010	.003	.018	.010	.003	
6.0	.019	.009	.003	.018	.009	.003	.018	.009	.003	.017	.009	.003	.017	.009	.003	
7.0	.017	.008	.002	.017	.008	.002	.016	.008	.002	.016	.008	.002	.015	.008	.002	
8.0	.016	.008	.002	.016	.008	.002	.015	.008	.002	.015	.007	.002	.014	.007	.002	
9.0	.015	.007	.002	.014	.007	.002	.014	.007	.002	.014	.007	.002	.013	.007	.002	
10.0	.014	.007	.002	.013	.007	.002	.013	.006	.002	.013	.006	.002	.012	.006	.002	

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	.014	.014	.014	.012	.012	.012	.008	.008	.008	.005	.005	.005	.002	.002	.002	
1.0	.014	.012	.010	.012	.010	.008	.008	.007	.006	.005	.004	.003	.001	.001	.001	
2.0	.014	.010	.007	.012	.008	.006	.008	.006	.004	.005	.003	.002	.001	.001	.001	
3.0	.013	.009	.005	.011	.007	.004	.008	.005	.003	.004	.003	.002	.001	.001	.001	
4.0	.013	.008	.004	.011	.007	.003	.007	.005	.002	.004	.003	.001	.001	.001	.000	
5.0	.012	.007	.003	.010	.006	.003	.007	.004	.002	.004	.002	.001	.001	.001	.000	
6.0	.012	.006	.003	.010	.005	.002	.007	.004	.002	.004	.002	.001	.001	.001	.000	
7.0	.011	.006	.002	.009	.005	.002	.007	.004	.001	.004	.002	.001	.001	.001	.000	
8.0	.010	.005	.002	.009	.005	.002	.006	.003	.001	.004	.002	.001	.001	.001	.000	
9.0	.010	.005	.002	.009	.004	.001	.006	.003	.001	.003	.002	.001	.001	.001	.000	
10.0	.009	.005	.002	.008	.004	.001	.006	.003	.001	.003	.002	.001	.001	.001	.000	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: LOW  
 Temperature:20DEG  
 Operators:G  
 Test Date:2022-11-07

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:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm										
NAME: 489916-3000K					TYPE:489916-3000K			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	-8.5	-6.7	-8.2	-6.5	-6.2	-17.8	-16.0	-17.5	-15.8	-15.6
3H	-6.0	-4.3	-5.7	-4.0	-3.8	-16.7	-15.0	-16.4	-14.7	-14.5
4H	-5.1	-3.4	-4.7	-3.2	-2.9	-16.3	-14.7	-15.9	-14.4	-14.1
6H	-4.6	-3.1	-4.2	-2.8	-2.5	-16.3	-14.8	-16.0	-14.5	-14.2
8H	-4.6	-3.1	-4.2	-2.8	-2.5	-16.4	-14.9	-16.0	-14.6	-14.3
12H	-4.6	-3.2	-4.2	-2.9	-2.5	-16.4	-15.0	-16.0	-14.7	-14.4
4H 2H	-8.8	-7.2	-8.5	-7.0	-6.7	-17.3	-15.7	-17.0	-15.4	-15.2
3H	-6.2	-4.8	-5.9	-4.5	-4.2	-16.2	-14.7	-15.8	-14.4	-14.1
4H	-5.2	-3.9	-4.8	-3.6	-3.2	-15.6	-14.3	-15.2	-14.0	-13.6
6H	-4.7	-3.5	-4.2	-3.1	-2.7	-15.6	-14.4	-15.1	-14.0	-13.6
8H	-4.6	-3.5	-4.1	-3.1	-2.7	-15.6	-14.5	-15.2	-14.1	-13.7
12H	-4.6	-3.6	-4.1	-3.2	-2.8	-15.6	-14.6	-15.2	-14.2	-13.8
8H 4H	-5.4	-4.3	-4.9	-3.9	-3.5	-15.3	-14.2	-14.8	-13.8	-13.4
6H	-4.7	-3.8	-4.3	-3.4	-3.0	-15.2	-14.2	-14.7	-13.8	-13.4
8H	-4.6	-3.8	-4.2	-3.4	-2.9	-15.2	-14.4	-14.7	-13.9	-13.5
12H	-4.6	-3.9	-4.1	-3.5	-3.0	-15.2	-14.5	-14.7	-14.1	-13.6
12H 4H	-5.4	-4.4	-5.0	-4.0	-3.6	-15.2	-14.2	-14.8	-13.8	-13.4
6H	-4.8	-4.0	-4.3	-3.5	-3.1	-15.1	-14.3	-14.6	-13.8	-13.4
8H	-4.6	-3.9	-4.2	-3.5	-3.0	-15.1	-14.4	-14.6	-14.0	-13.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.7 / - 0.6					+ 0.6 / - 0.7				
1.5H	+ 1.7 / - 1.5					+ 0.5 / - 0.7				
2.0H	+ 2.7 / - 3.1					+ 1.2 / - 1.2				

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:20DEG  
Operators:G  
Test Date:2022-11-07

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:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

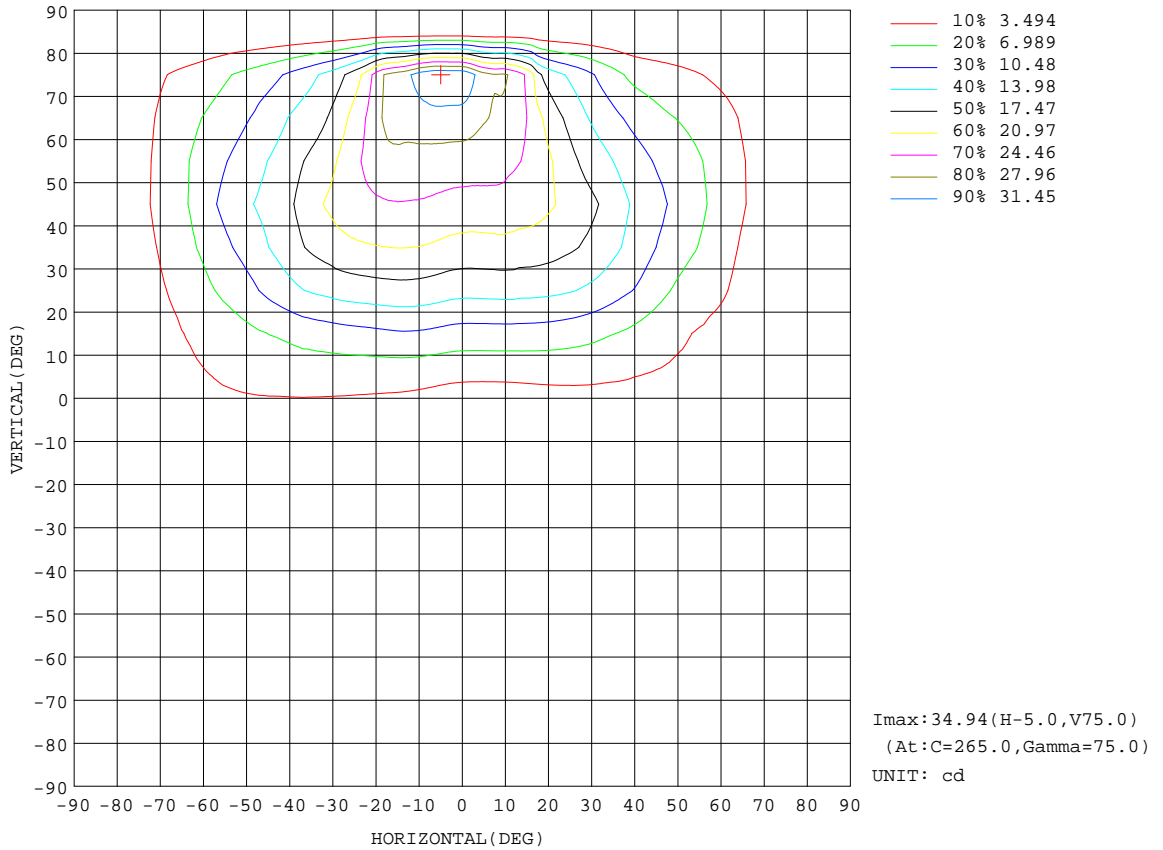
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	3	2	2	3	2	2	3	2	2	1
0.80	4	3	2	4	3	2	4	3	2	2
1.00	5	4	3	5	4	3	5	4	3	2
1.25	5	4	4	5	4	4	5	4	4	3
1.50	6	5	4	6	5	4	5	5	4	3
2.00	7	6	5	6	6	5	6	5	5	4
2.50	7	6	6	7	6	6	6	6	5	5
3.00	7	7	6	7	6	6	7	6	6	5
4.00	8	7	7	7	7	7	7	7	6	6
5.00	8	7	7	8	7	7	7	7	7	6
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:20DEG  
Operators:G  
Test Date:2022-11-07

$\gamma$  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:

**ISOCANDELA DIAGRAM**

Test:U:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

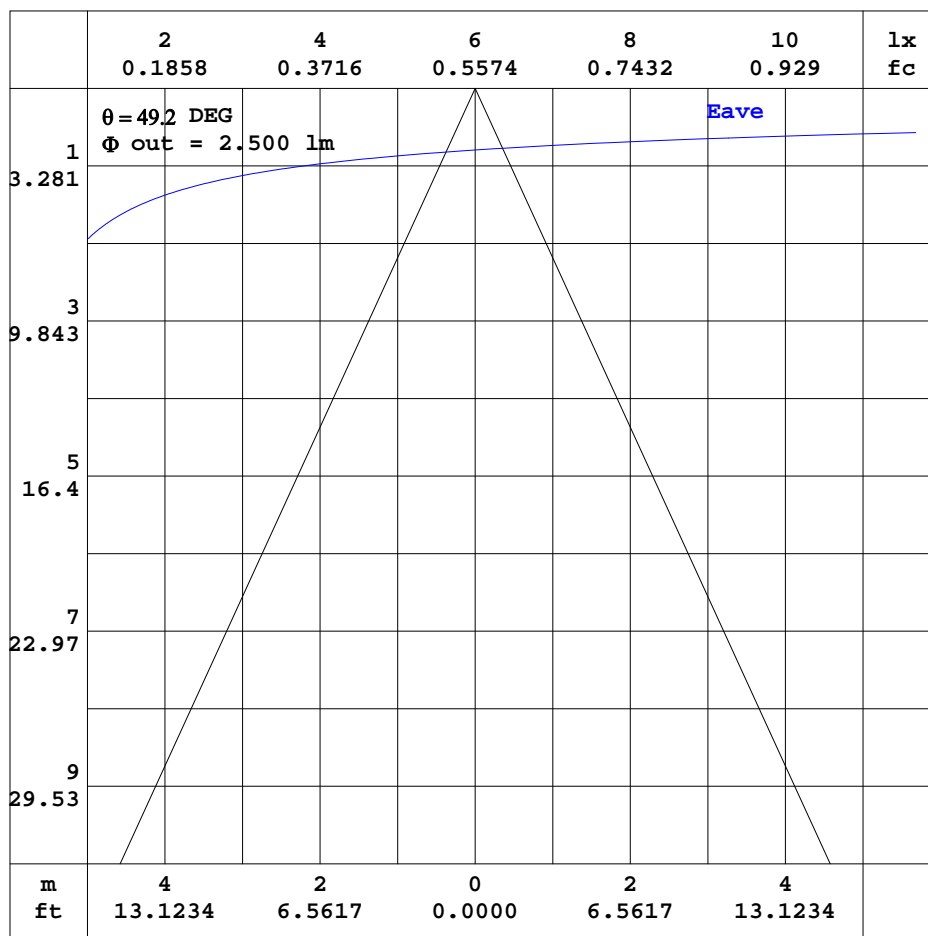


C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:20DEG  
Operators:G  
Test Date:2022-11-07

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:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	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.

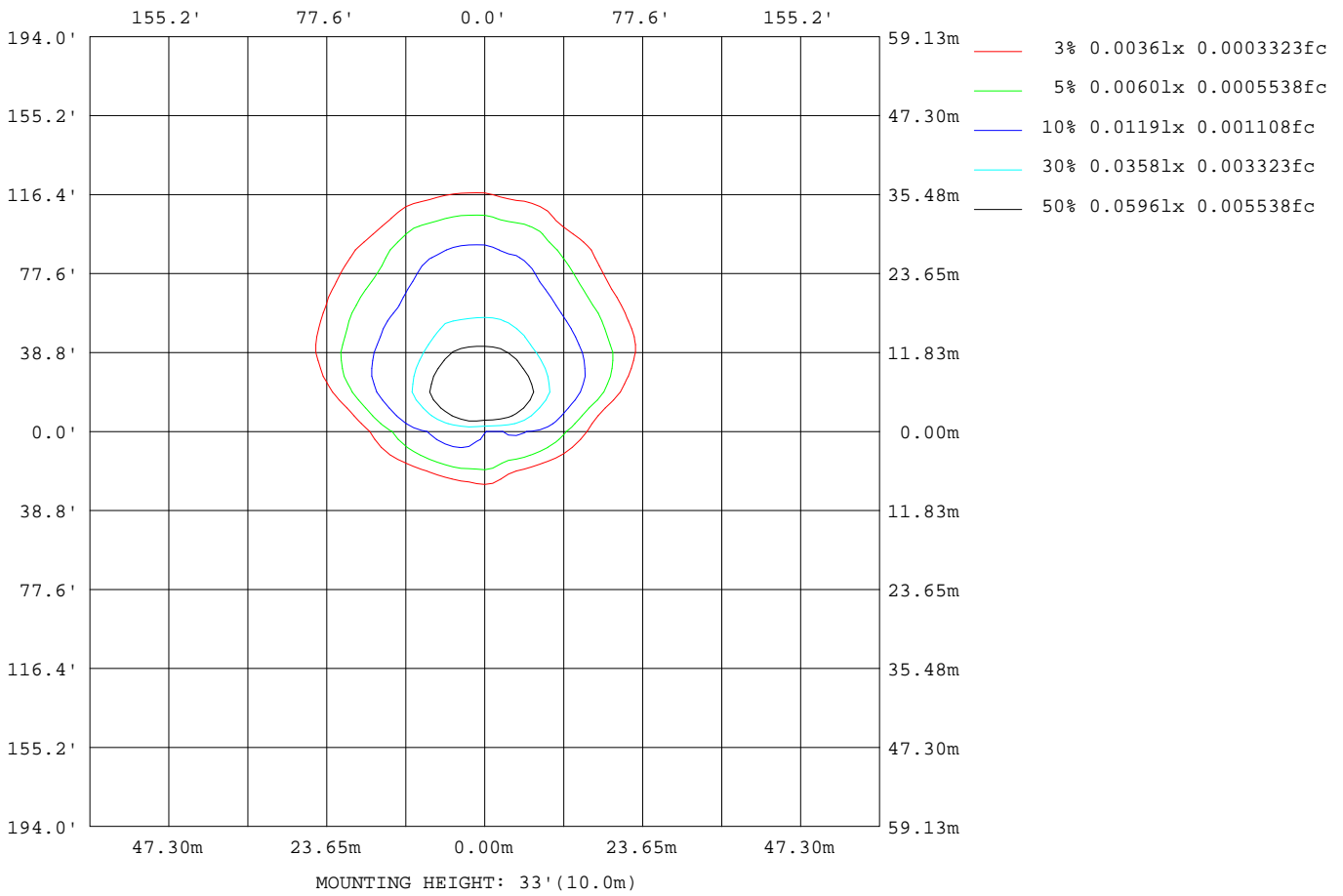
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: LOW  
 Temperature:20DEG  
 Operators:G  
 Test Date:2022-11-07

$\gamma$  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:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: LOW  
 Temperature:20DEG  
 Operators:G  
 Test Date:2022-11-07

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:11.95V I:0.2690A P:3.017W PF:0.9385 Lamp Flux:1000x1 lm		
NAME: 489916-3000K	TYPE:489916-3000K	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

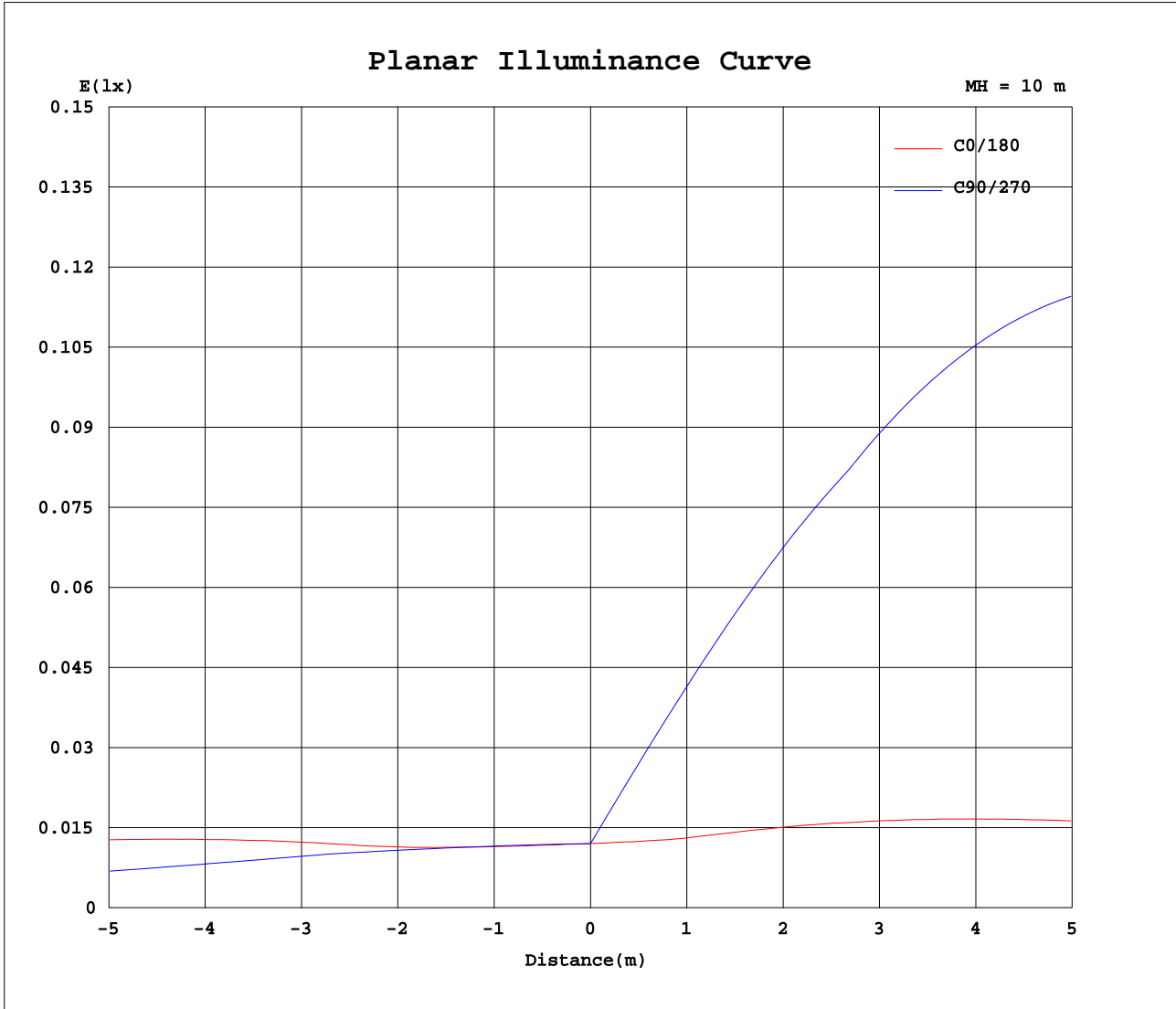
AvgL	cd/m2
L_0~180(65)av	26
L_0~180(75)av	27
L_0~180(85)av	23
L_90~270(65)av	179
L_90~270(75)av	335
L_90~270(85)av	0
L_45(65)av	83
L_45(75)av	92
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: LOW  
Temperature:20DEG  
Operators:G  
Test Date:2022-11-07

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: 20DEG  
 Operators: G  
 Test Date: 2022-11-07

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:







