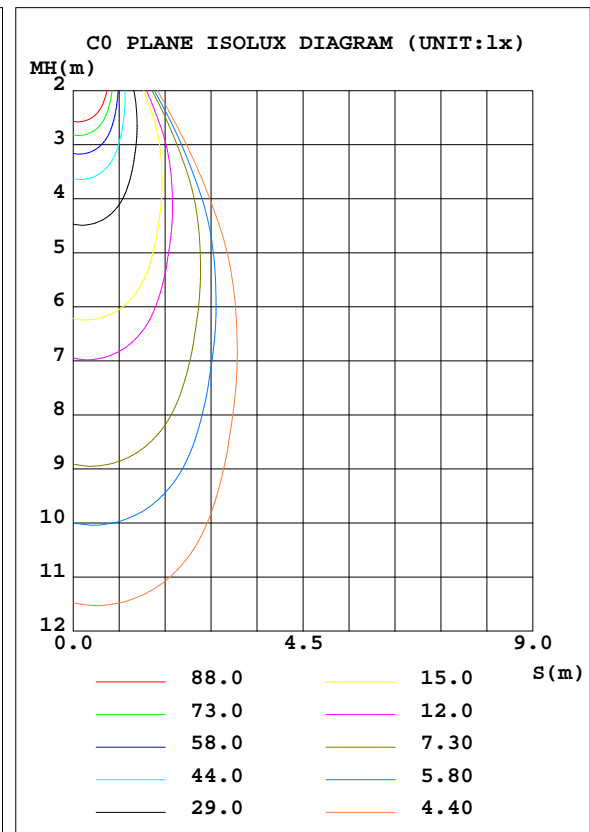
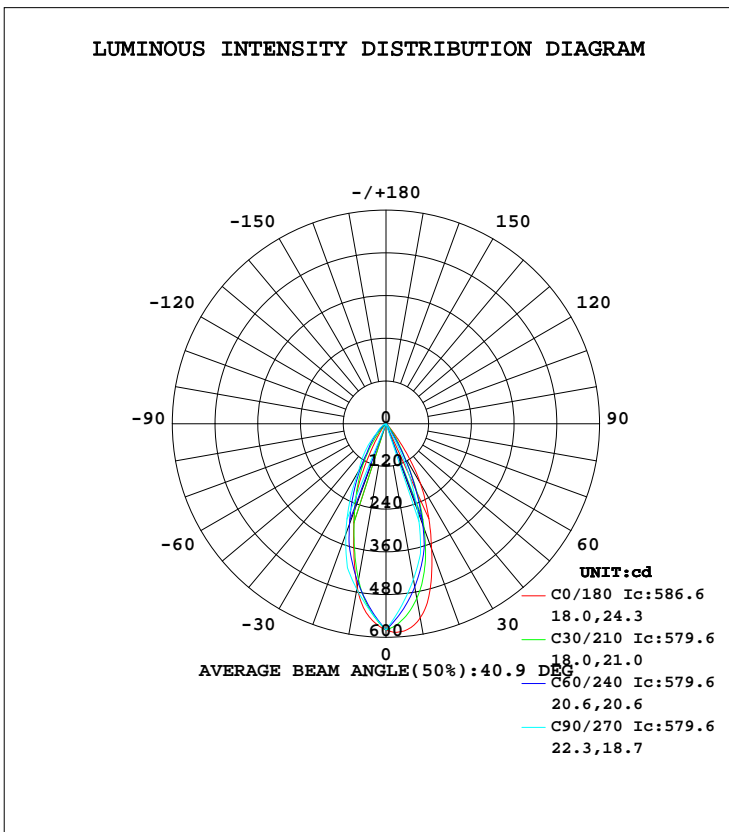


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 77.78 lm/W			
MODEL	489897 ELEMENT	I _{max} (cd)	586.6	S/MH(C0/180)	0.58
NOMINAL POWER(W)	4	LOR(%)	152.4	S/MH(C90/270)	0.70
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	304.76	η UP, DN(C0-180)	0.0,61.3
NOMINAL FLUX(lm)	200	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,91.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	12	η down(%)	152.4	CIBSE SHR MAX	0.65



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2026-05-18

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	584.3	537.7	511.8	509.7	544.4	519.9	525.9	548.0	0- 5	13.15	13.15	4.31,6.57
10	553.9	479.4	443.9	422.5	466.3	447.4	472.2	499.3	5- 10	35.74	48.88	16,24.4
15	480.7	408.3	376.1	309.2	351.3	363.2	418.5	434.0	10- 15	50.64	99.53	32.7,49.8
20	374.8	321.0	259.3	189.5	258.8	284.1	330.0	359.3	15- 20	55.61	155.1	50.9,77.6
25	280.5	203.8	142.5	97.32	167.4	201.9	241.5	271.1	20- 25	50.51	205.6	67.5,103
30	194.3	103.8	25.70	44.99	72.98	132.7	153.0	189.9	25- 30	38.25	243.9	80,122
35	100.4	36.61	17.13	15.32	28.45	78.97	113.7	122.2	30- 35	24.58	268.5	88.1,134
40	34.33	3.875	8.567	0.1261	11.71	42.14	74.51	72.41	35- 40	15.25	283.7	93.1,142
45	11.72	1.641	0	0.0735	4.685	25.67	35.27	46.05	40- 45	8.736	292.5	96,146
50	4.736	0.4321	0	0.0353	1.720	13.11	27.11	27.07	45- 50	4.666	297.1	97.5,149
55	2.167	0	0	0	0.6992	5.962	18.94	14.16	50- 55	2.918	300.0	98.5,150
60	1.173	0	0	0	0.3590	3.440	10.77	8.983	55- 60	1.881	301.9	99.1,151
65	0.6974	0	0	0	0.1843	1.964	8.355	4.927	60- 65	1.175	303.1	99.5,152
70	0.4238	0	0	0	0.0616	1.184	5.937	2.706	65- 70	0.8137	303.9	99.7,152
75	0.2309	0	0	0	0	0.8185	3.518	1.708	70- 75	0.5446	304.5	99.9,152
80	0.1270	0	0	0	0	0.4282	0	0.8465	75- 80	0.2619	304.7	100,152
85	0.0140	0	0	0	0	0	0	0	80- 85	0.0374	304.8	100,152
90	0	0	0	0	0	0	0	0	85- 90	0.0027	304.8	100,152
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			

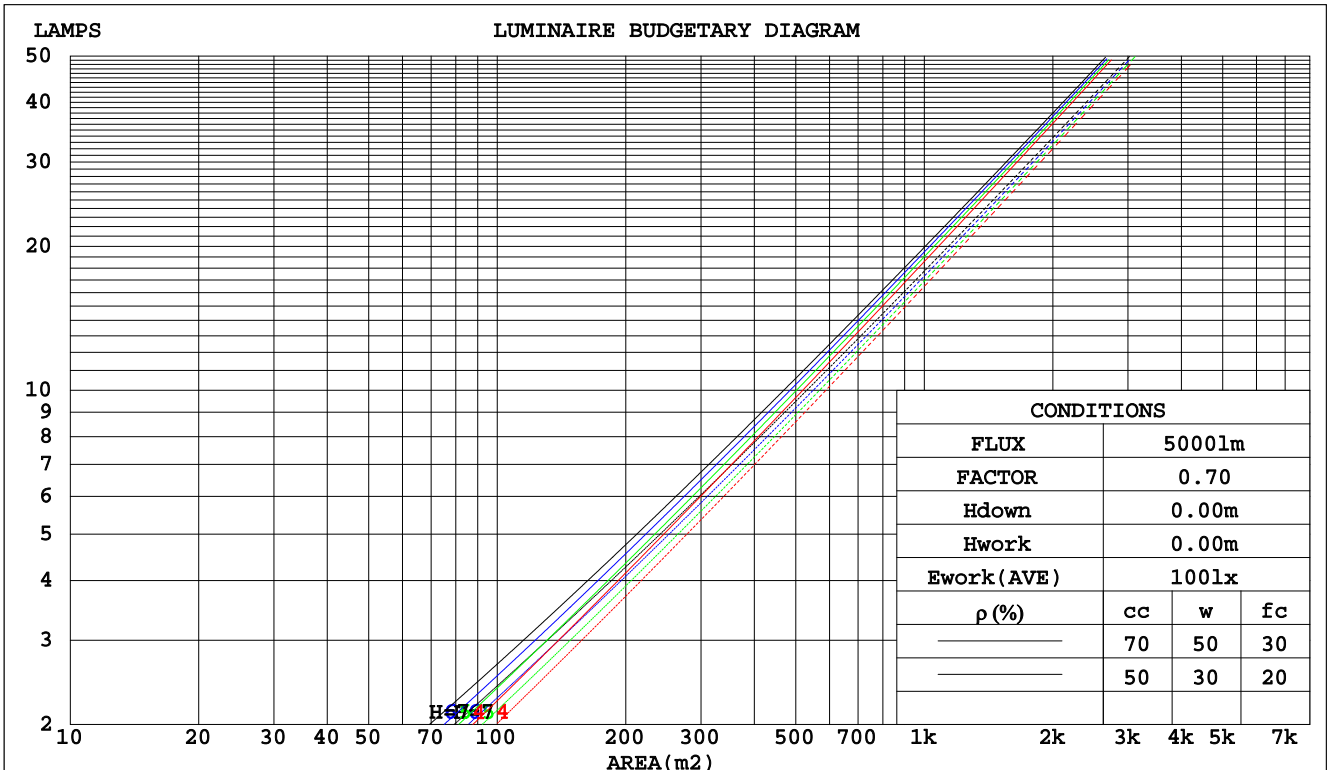
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw	0															
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.81	1.81	1.81	1.77	1.77	1.77	1.69	1.69	1.69	1.62	1.62	1.62	1.55	1.55	1.55	1.52
1.0	1.70	1.66	1.63	1.66	1.63	1.60	1.60	1.58	1.55	1.54	1.52	1.51	1.49	1.48	1.46	1.44
2.0	1.59	1.53	1.48	1.56	1.51	1.46	1.51	1.47	1.43	1.47	1.43	1.40	1.43	1.40	1.37	1.35
3.0	1.49	1.42	1.36	1.47	1.40	1.35	1.43	1.38	1.33	1.39	1.35	1.31	1.36	1.32	1.29	1.27
4.0	1.40	1.33	1.27	1.39	1.31	1.26	1.35	1.29	1.24	1.32	1.27	1.23	1.30	1.25	1.22	1.19
5.0	1.33	1.24	1.18	1.31	1.24	1.18	1.29	1.22	1.17	1.26	1.20	1.16	1.24	1.19	1.15	1.13
6.0	1.26	1.17	1.11	1.24	1.16	1.11	1.22	1.15	1.10	1.20	1.14	1.09	1.18	1.13	1.09	1.07
7.0	1.19	1.11	1.05	1.18	1.10	1.05	1.16	1.09	1.04	1.14	1.08	1.03	1.13	1.07	1.03	1.01
8.0	1.13	1.05	.99	1.12	1.05	.99	1.11	1.04	.99	1.09	1.03	.98	1.08	1.02	.98	.96
9.0	1.08	.00	.94	1.07	.99	.94	1.06	.99	.94	1.05	.98	.93	1.03	.97	.93	.91
10.0	1.03	.95	.90	1.02	.95	.89	1.01	.94	.89	1.00	.94	.89	.99	.93	.89	.87



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	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	.256	.146	.046	.246	.140	.045	.227	.130	.042	.210	.121	.039	.193	.112	.036	
2.0	.244	.134	.041	.235	.130	.040	.219	.122	.038	.205	.115	.036	.191	.108	.034	
3.0	.231	.123	.037	.224	.120	.036	.210	.114	.035	.198	.108	.033	.186	.103	.032	
4.0	.219	.114	.034	.213	.112	.033	.201	.107	.032	.191	.102	.031	.181	.098	.030	
5.0	.208	.106	.031	.203	.104	.030	.193	.100	.030	.183	.097	.029	.175	.093	.028	
6.0	.198	.099	.028	.194	.098	.028	.185	.095	.028	.177	.092	.027	.169	.089	.026	
7.0	.189	.094	.027	.185	.092	.026	.177	.090	.026	.170	.087	.025	.163	.085	.025	
8.0	.181	.088	.025	.177	.087	.025	.170	.085	.024	.164	.083	.024	.158	.081	.024	
9.0	.173	.084	.023	.170	.083	.023	.164	.081	.023	.158	.079	.023	.152	.077	.022	
10.0	.166	.080	.022	.163	.079	.022	.158	.077	.022	.152	.076	.022	.147	.074	.021	

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	.290	.290	.290	.248	.248	.248	.169	.169	.169	.097	.097	.097	.031	.031	.031	
1.0	.260	.240	.222	.222	.206	.191	.152	.142	.132	.088	.082	.077	.028	.026	.025	
2.0	.236	.202	.174	.202	.174	.150	.138	.120	.105	.080	.070	.061	.026	.023	.020	
3.0	.216	.173	.139	.185	.149	.120	.127	.104	.084	.073	.061	.050	.024	.020	.016	
4.0	.199	.150	.113	.171	.130	.098	.118	.091	.069	.068	.053	.041	.022	.017	.013	
5.0	.186	.132	.093	.159	.115	.081	.110	.080	.057	.064	.047	.034	.020	.015	.011	
6.0	.174	.118	.078	.149	.102	.068	.103	.072	.048	.060	.042	.029	.019	.014	.009	
7.0	.163	.106	.066	.141	.092	.058	.097	.065	.041	.056	.038	.024	.018	.012	.008	
8.0	.154	.097	.057	.133	.084	.049	.092	.059	.035	.054	.035	.021	.017	.011	.007	
9.0	.147	.088	.049	.126	.077	.043	.087	.054	.030	.051	.032	.018	.016	.010	.006	
10.0	.139	.082	.043	.120	.071	.038	.083	.050	.027	.049	.029	.016	.016	.010	.005	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm										
NAME: 489897 ELEMENT					TYPE:489897 ELEMENT			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	-1.0	-0.2	-0.8	-0.0	0.2	-10.5	-9.6	-10.3	-9.5	-9.3
3H	-1.2	-0.4	-1.0	-0.2	-0.0	-10.7	-9.9	-10.4	-9.7	-9.5
4H	-1.3	-0.5	-1.0	-0.3	-0.1	-10.8	-10.0	-10.5	-9.8	-9.6
6H	-1.4	-0.7	-1.1	-0.4	-0.2	-10.9	-10.1	-10.6	-9.9	-9.7
8H	-1.4	-0.7	-1.1	-0.5	-0.2	-10.9	-10.2	-10.6	-10.0	-9.7
12H	-1.5	-0.8	-1.2	-0.5	-0.3	-11.0	-10.3	-10.6	-10.0	-9.8
4H 2H	-1.3	-0.5	-1.0	-0.3	-0.1	-10.8	-10.0	-10.5	-9.8	-9.6
3H	-1.5	-0.8	-1.2	-0.6	-0.3	-11.0	-10.3	-10.6	-10.0	-9.8
4H	-1.6	-1.0	-1.2	-0.7	-0.4	-11.1	-10.5	-10.7	-10.2	-9.8
6H	-1.7	-1.1	-1.3	-0.8	-0.5	-11.1	-10.6	-10.8	-10.3	-9.9
8H	-1.7	-1.2	-1.3	-0.9	-0.5	-11.2	-10.7	-10.8	-10.4	-10.0
12H	-1.8	-1.3	-1.4	-1.0	-0.6	-11.3	-10.8	-10.8	-10.4	-10.0
8H 4H	-1.7	-1.2	-1.3	-0.9	-0.5	-11.2	-10.7	-10.8	-10.4	-10.0
6H	-1.8	-1.4	-1.4	-1.0	-0.6	-11.3	-10.9	-10.9	-10.5	-10.1
8H	-1.9	-1.5	-1.4	-1.1	-0.7	-11.4	-11.0	-10.9	-10.6	-10.1
12H	-1.9	-1.6	-1.5	-1.2	-0.7	-11.4	-11.1	-11.0	-10.7	-10.2
12H 4H	-1.8	-1.3	-1.4	-1.0	-0.6	-11.3	-10.8	-10.8	-10.4	-10.0
6H	-1.9	-1.5	-1.4	-1.1	-0.7	-11.4	-11.0	-10.9	-10.6	-10.1
8H	-1.9	-1.6	-1.5	-1.2	-0.7	-11.4	-11.1	-11.0	-10.7	-10.2
Variations with the observer position at spacings:										
S = 1.0H	+ 6.0 / -19.5					+ 3.1 / - 1.\$				
1.5H	+ 8.6 / -25.0					+ 5.9 / - 1.\$				
2.0H	+ 9.6 / -40.6					+ 9.1 / - 1.\$				

CIE Pub.117 Corrected 200.0 lm Total Lamp Luminous Flux.(8log(F/F0) = -5.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

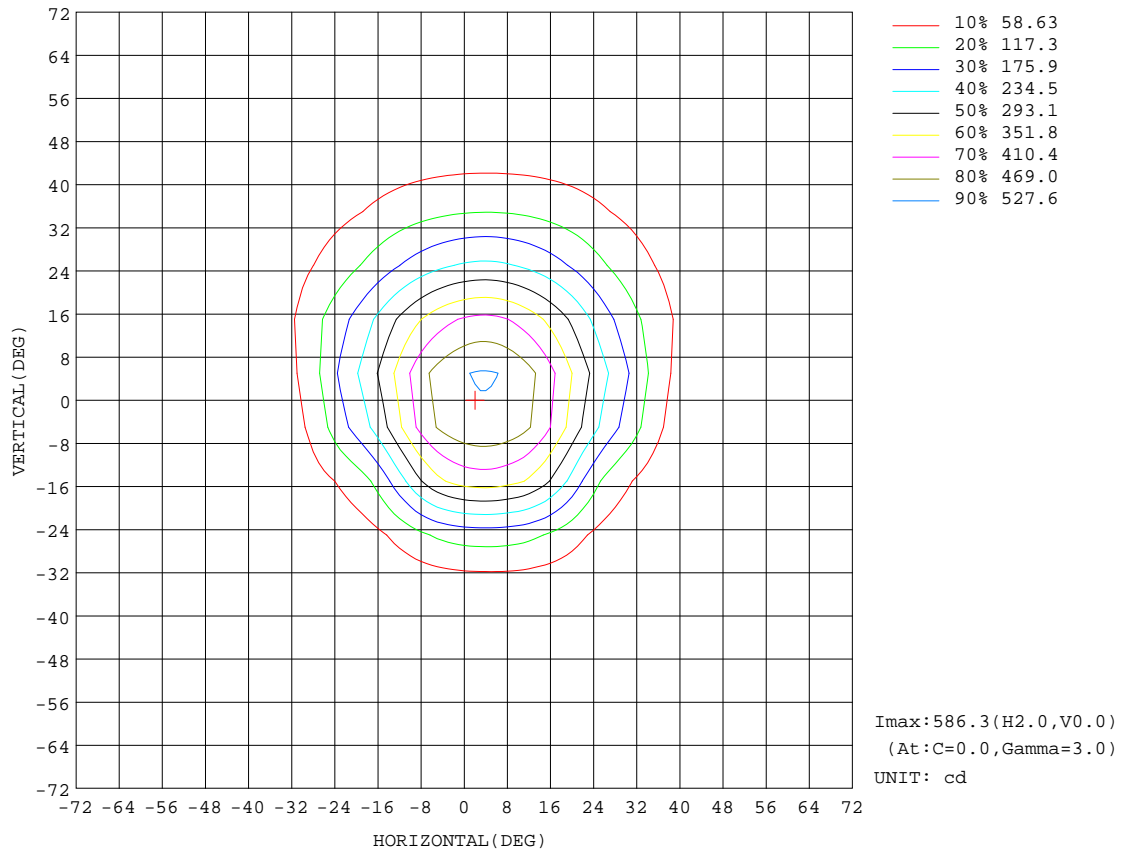
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	133	123	117	132	123	117	131	122	117	112
0.80	144	135	130	143	135	129	141	134	129	123
1.00	151	143	137	150	142	137	147	142	136	130
1.25	157	149	144	156	148	143	153	147	142	136
1.50	161	154	149	159	153	148	156	151	147	140
2.00	165	159	154	163	158	153	159	155	151	143
2.50	168	162	158	166	160	156	161	157	153	144
3.00	170	165	161	168	163	159	162	159	156	146
4.00	173	169	166	170	167	164	165	162	160	149
5.00	175	172	169	172	169	167	166	164	162	150
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:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

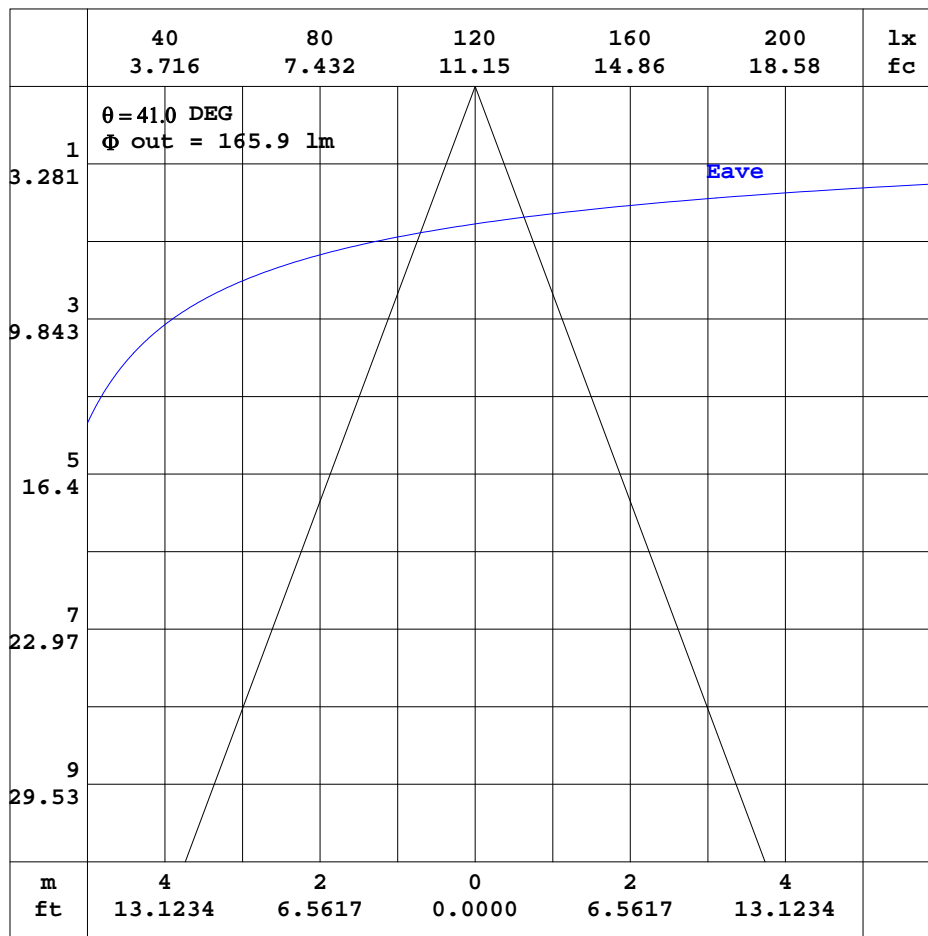


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



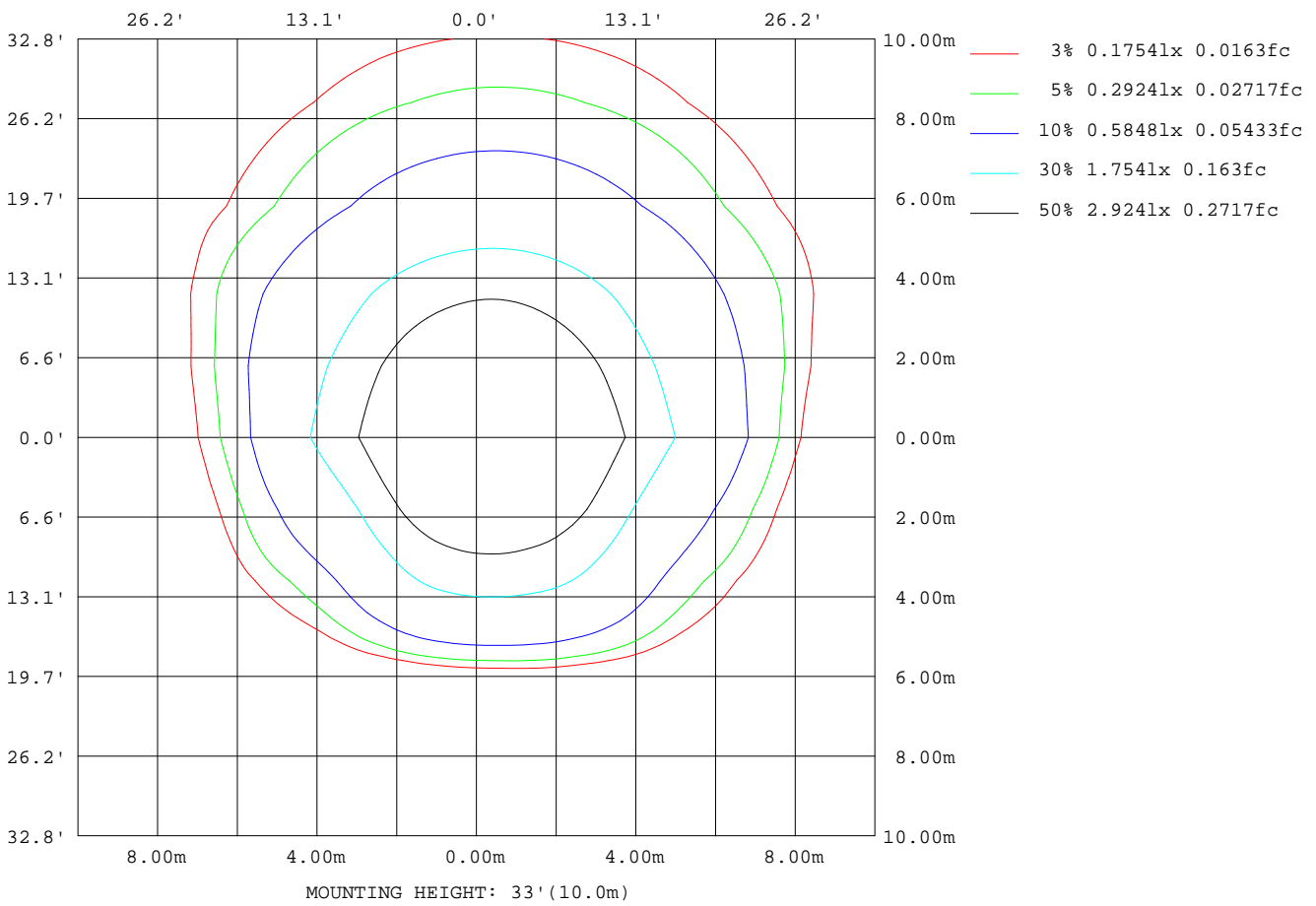
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	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:2026-05-18

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:11.86V I:0.4643A P:3.526W PF:0.6403 Lamp Flux:180x1 lm		
NAME: 489897 ELEMENT	TYPE:489897 ELEMENT	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

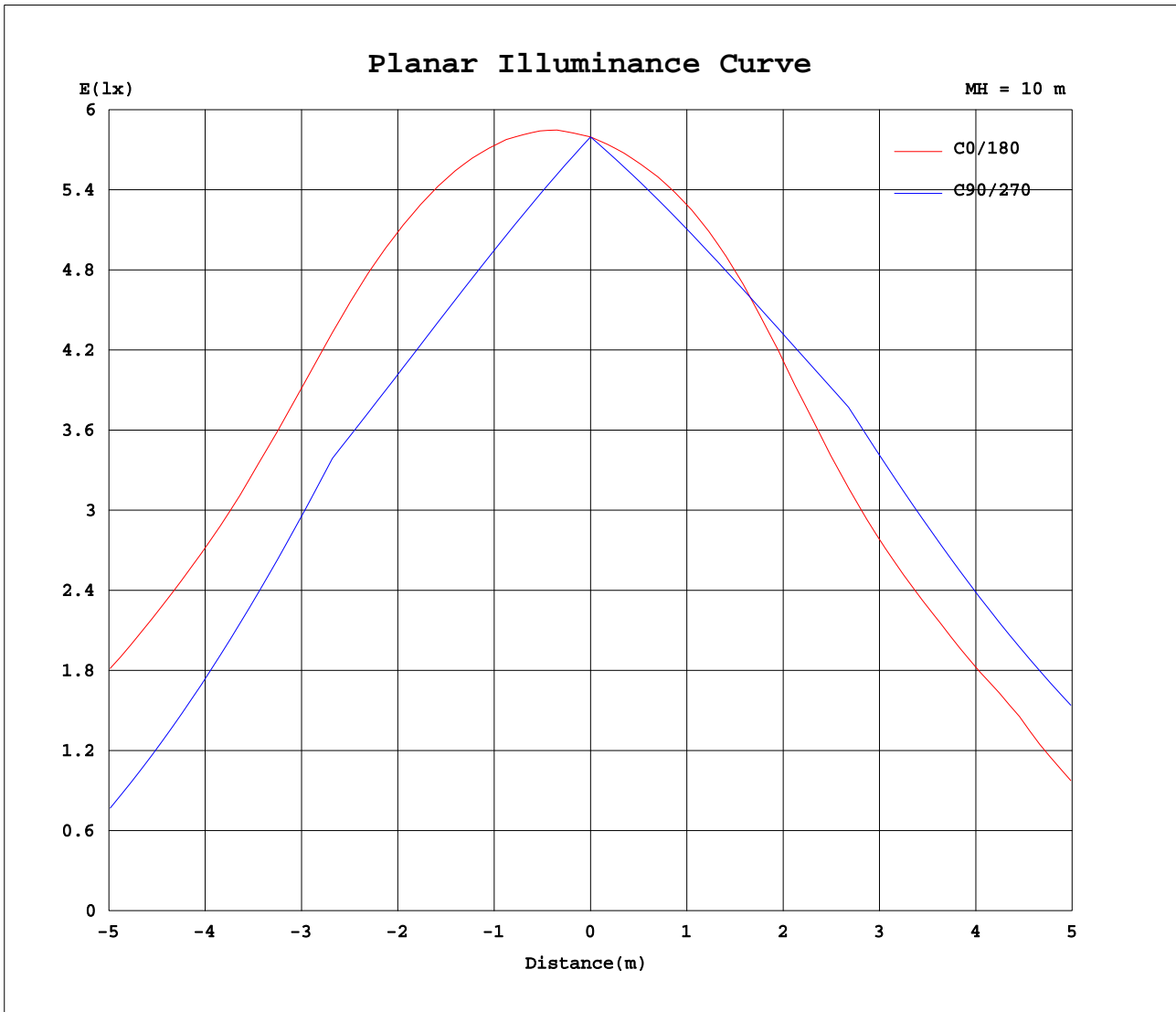
AvgL	cd/m2
L_0~180(65)av	5
L_0~180(75)av	2
L_0~180(85)av	0
L_90~270(65)av	49
L_90~270(75)av	34
L_90~270(85)av	0
L_45(65)av	20
L_45(75)av	12
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2026-05-18

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: 2026-05-18

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:

