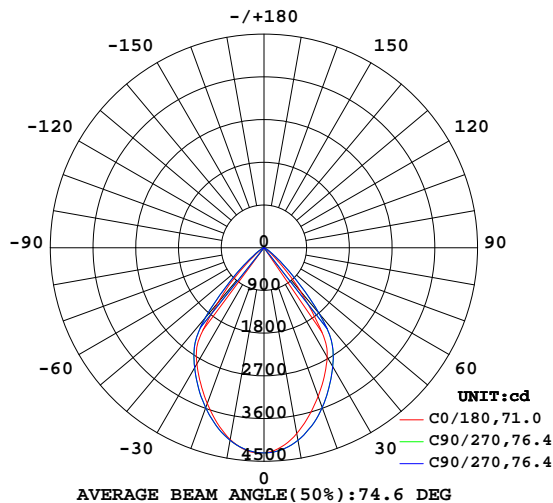


LUMINAIRE PHOTOMETRIC TEST REPORT

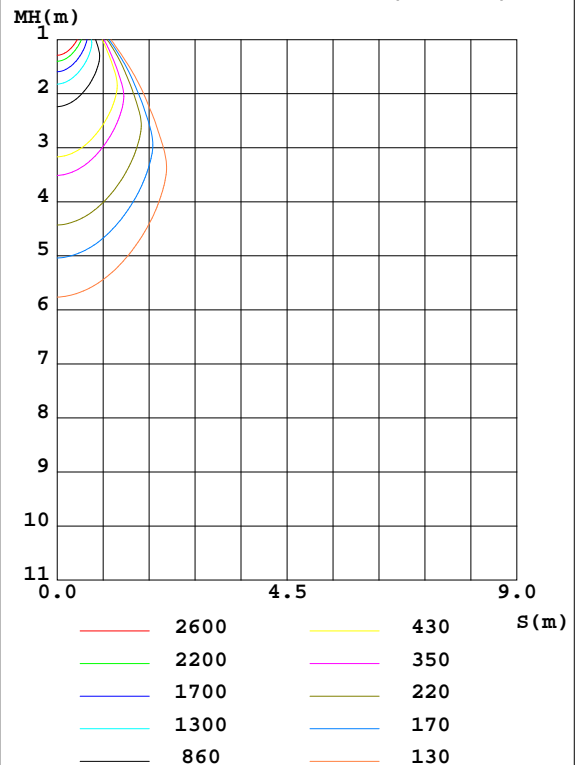
Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 115.55 lm/W			
MODEL	LED542 B34 (45W/4K)	Imax(cd)	4328	S/MH(C0/180)	1.01
NOMINAL POWER(W)	45	LOR(%)	100.0	S/MH(C90/270)	1.04
RATED VOLTAGE(V)		TOTAL FLUX(lm)	5257.9	η UP,DN(C0-180)	0.0,48.4
NOMINAL FLUX(lm)	5257.86	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)		η down(%)	100.0	CIBSE SHR MAX	1.15

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	3975	4121	4103	4121					0- 10	400.9	400.9	7.62,7.62
20	3334	3586	3493	3588					10- 20	1070	1470	28,28
30	2661	2896	2828	2923					20- 30	1456	2926	55.7,55.7
40	1200	1818	1514	1922					30- 40	1443	4370	83.1,83.1
50	209.2	445.2	294.6	478.4					40- 50	674.2	5044	95.9,95.9
60	45.68	97.65	59.24	104.1					50- 60	156.2	5200	98.9,98.9
70	10.77	25.63	13.35	26.92					60- 70	40.24	5241	99.7,99.7
80	3.161	11.05	4.173	11.44					70- 80	13.13	5254	99.9,99.9
90	0.3110	0.9071	0.4329	0.9071					80- 90	4.226	5258	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		

Conical surface Flux(90deg): 4816.8 lm

%lum = 91.6%

%lamp = 91.6%

Conical surface Flux(120deg): 5200.3 lm

%lum = 98.9%

%lamp = 98.9%

0 - 45 DEG Zonal Flux:4816.8 %lum: 91.6%

0 - 60 DEG Zonal Flux:5200.3 %lum: 98.9%

All measured values may vary less than 35 %

from the average measured value in the 0 to 130 deg. zone: 7.4%

All measured values in the 0 to 130 deg. zone

may vary less than 50% from the average value of itself: 11.3%

C Range: 0 - 360DEG

C Interval: 90.0DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:

Test Date:2021-12-09

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446

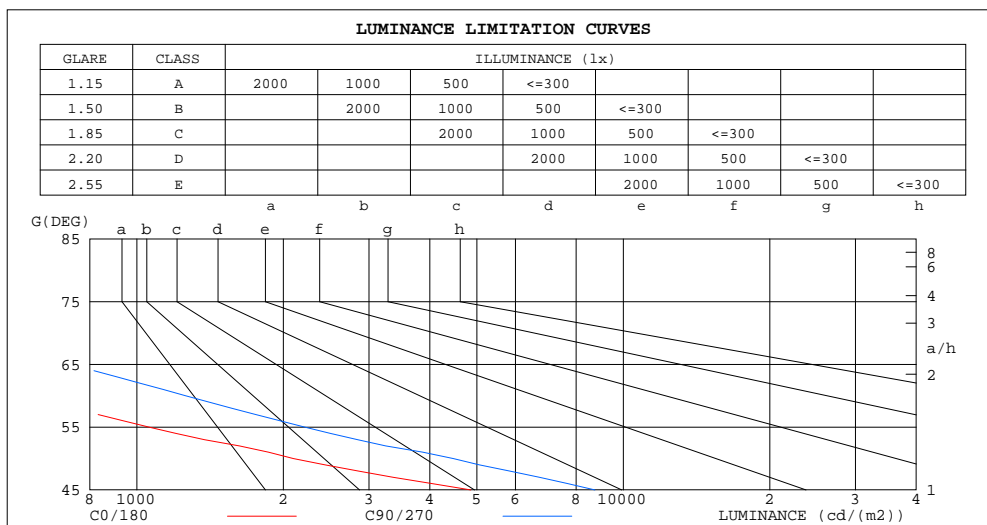
Humidity:65.0%

Test Distance:8.690m [K=1.0000]

Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	87	424
80	117	411
75	156	421
70	203	484
65	324	731
60	589	1261
55	1061	2217
50	2098	4472
45	4858	8740

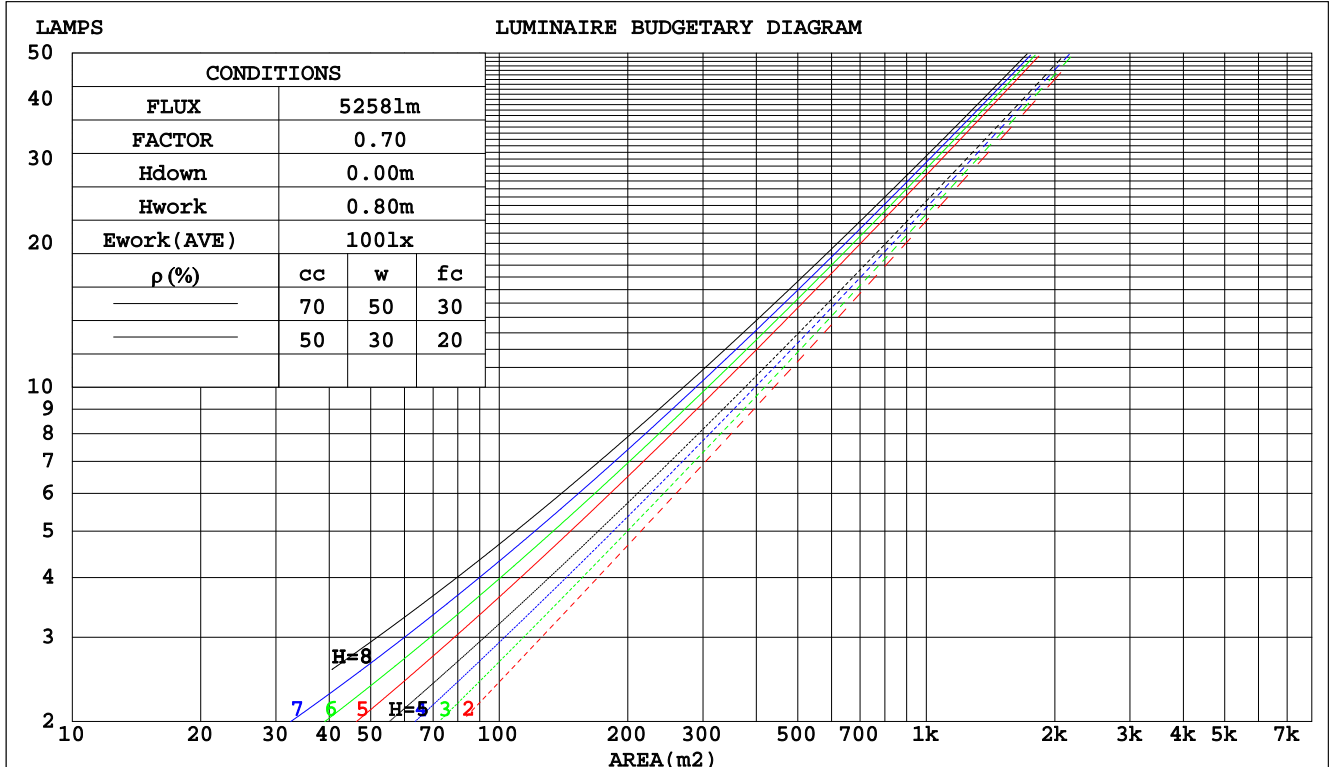
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2021-12-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 8.690m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	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	1.00
1.0	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	.00	.00	.98	.97	.96	.95	.94	.92
2.0	1.01	.97	.93	.99	.95	.92	.96	.93	.90	.93	.90	.88	.90	.88	.86	.84
3.0	.93	.88	.83	.92	.87	.82	.89	.85	.81	.86	.83	.80	.84	.81	.79	.77
4.0	.86	.80	.75	.85	.79	.75	.82	.78	.74	.80	.76	.73	.79	.75	.72	.70
5.0	.79	.73	.68	.78	.72	.68	.77	.71	.67	.75	.70	.67	.73	.69	.66	.64
6.0	.74	.67	.62	.73	.67	.62	.71	.66	.62	.70	.65	.61	.68	.64	.61	.59
7.0	.68	.62	.57	.68	.61	.57	.66	.61	.57	.65	.60	.56	.64	.59	.56	.54
8.0	.64	.57	.53	.63	.57	.52	.62	.56	.52	.61	.56	.52	.60	.55	.52	.50
9.0	.60	.53	.49	.59	.53	.49	.58	.52	.48	.57	.52	.48	.56	.51	.48	.47
10.0	.56	.49	.45	.55	.49	.45	.55	.49	.45	.54	.48	.45	.53	.48	.45	.43



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	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	.196	.111	.035	.189	.108	.034	.177	.101	.032	.165	.095	.031	.154	.089	.029		
2.0	.190	.104	.032	.184	.101	.031	.173	.096	.030	.164	.092	.029	.154	.087	.028		
3.0	.182	.097	.029	.177	.095	.029	.168	.091	.028	.159	.087	.027	.151	.084	.026		
4.0	.174	.090	.027	.170	.089	.026	.162	.086	.026	.154	.083	.025	.147	.080	.024		
5.0	.166	.085	.024	.162	.083	.024	.155	.081	.024	.148	.078	.023	.142	.076	.023		
6.0	.158	.079	.023	.155	.078	.023	.149	.076	.022	.143	.074	.022	.137	.072	.021		
7.0	.151	.075	.021	.148	.074	.021	.142	.072	.021	.137	.070	.020	.132	.069	.020		
8.0	.144	.070	.020	.142	.070	.020	.137	.068	.019	.132	.067	.019	.127	.065	.019		
9.0	.138	.067	.019	.136	.066	.019	.131	.065	.018	.127	.064	.018	.123	.062	.018		
10.0	.132	.063	.018	.130	.063	.017	.126	.062	.017	.122	.060	.017	.118	.059	.017		

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	.172	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.050	.019	.017	.016	
2.0	.159	.132	.110	.136	.114	.095	.093	.079	.067	.054	.046	.039	.017	.015	.013	
3.0	.148	.114	.087	.126	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.138	.099	.070	.119	.086	.060	.082	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.130	.088	.057	.112	.076	.049	.077	.053	.035	.045	.031	.021	.014	.010	.007	
6.0	.123	.079	.047	.106	.068	.041	.073	.048	.029	.042	.028	.017	.014	.009	.006	
7.0	.117	.072	.040	.101	.062	.035	.070	.044	.025	.041	.026	.015	.013	.008	.005	
8.0	.112	.066	.034	.096	.057	.030	.067	.040	.021	.039	.024	.013	.013	.008	.004	
9.0	.107	.061	.029	.092	.053	.026	.064	.037	.018	.037	.022	.011	.012	.007	.004	
10.0	.102	.056	.026	.088	.049	.023	.061	.034	.016	.036	.020	.010	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	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	14.9	16.0	15.1	16.2	16.3	16.1	17.2	16.4	17.4	17.6
3H	14.7	15.7	15.0	15.9	16.1	16.0	17.0	16.3	17.2	17.4
4H	14.6	15.6	14.9	15.8	16.0	15.9	16.8	16.2	17.1	17.3
6H	14.6	15.4	14.9	15.7	15.9	15.8	16.7	16.1	16.9	17.2
8H	14.5	15.3	14.8	15.6	15.9	15.8	16.6	16.1	16.9	17.2
12H	14.5	15.3	14.8	15.5	15.8	15.7	16.5	16.1	16.8	17.1
4H 2H	14.7	15.6	15.0	15.8	16.1	15.9	16.8	16.2	17.1	17.3
3H	14.5	15.3	14.8	15.6	15.9	15.7	16.5	16.1	16.8	17.1
4H	14.4	15.1	14.8	15.4	15.8	15.7	16.4	16.0	16.7	17.0
6H	14.3	15.0	14.7	15.3	15.7	15.6	16.2	16.0	16.6	16.9
8H	14.3	14.9	14.7	15.2	15.6	15.6	16.1	16.0	16.5	16.9
12H	14.2	14.8	14.7	15.1	15.5	15.5	16.1	15.9	16.4	16.8
8H 4H	14.3	14.9	14.7	15.2	15.6	15.5	16.1	15.9	16.5	16.8
6H	14.2	14.7	14.6	15.1	15.5	15.5	15.9	15.9	16.3	16.8
8H	14.2	14.6	14.6	15.0	15.4	15.4	15.8	15.9	16.3	16.7
12H	14.1	14.5	14.6	14.9	15.4	15.4	15.7	15.9	16.2	16.7
12H 4H	14.2	14.8	14.7	15.1	15.5	15.5	16.0	15.9	16.4	16.8
6H	14.2	14.6	14.6	15.0	15.4	15.4	15.8	15.9	16.3	16.7
8H	14.1	14.5	14.6	14.9	15.4	15.4	15.7	15.8	16.2	16.6
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.5 / -10.4					+ 2.8 / - 8.3				
1.5H	+ 4.1 / - 7.2					+ 4.4 / - 7.3				
2.0H	+ 5.5 / - 6.9					+ 6.5 / - 7.3				

CIE Pub.117, 5258 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 5.8)
Area: 0.155 m2

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

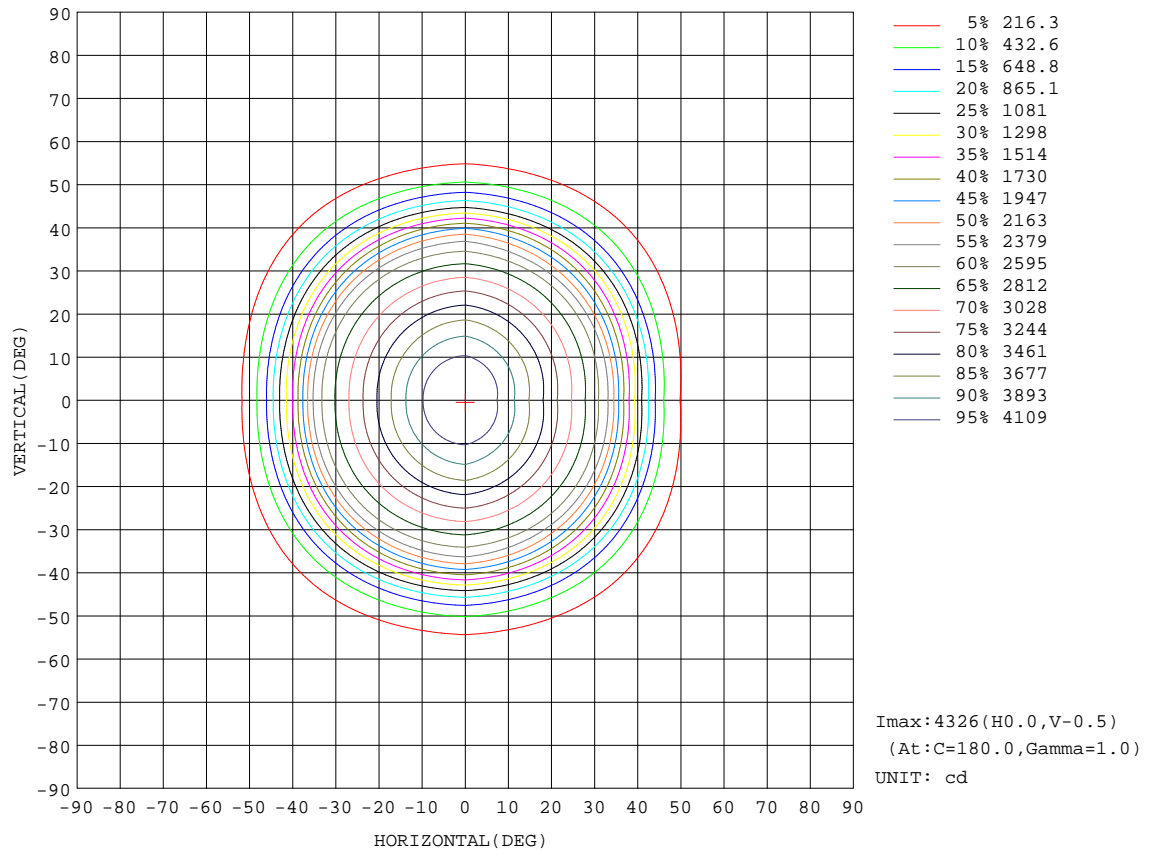
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	81	73	69	80	73	69	79	73	69	64
0.80	89	82	78	89	82	78	87	81	77	73
1.00	95	89	84	94	88	84	93	88	84	79
1.25	100	94	90	99	93	90	97	92	89	84
1.50	103	98	94	102	97	93	100	95	92	87
2.00	107	102	98	105	101	98	102	99	96	91
2.50	109	104	101	107	103	100	104	101	98	92
3.00	110	107	104	109	105	102	105	103	100	94
4.00	113	109	107	111	108	106	107	105	103	96
5.00	114	111	109	112	109	108	108	106	104	97
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

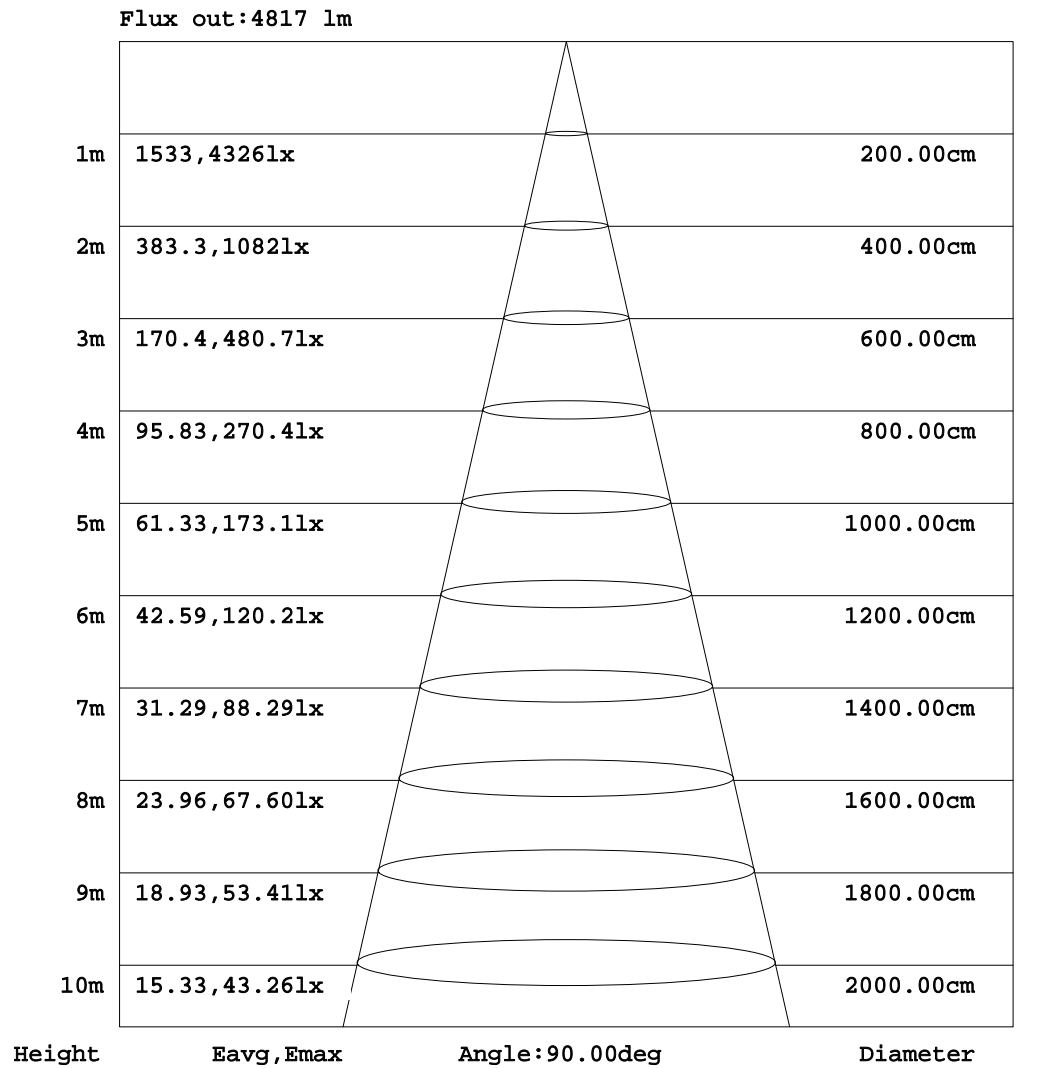


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:



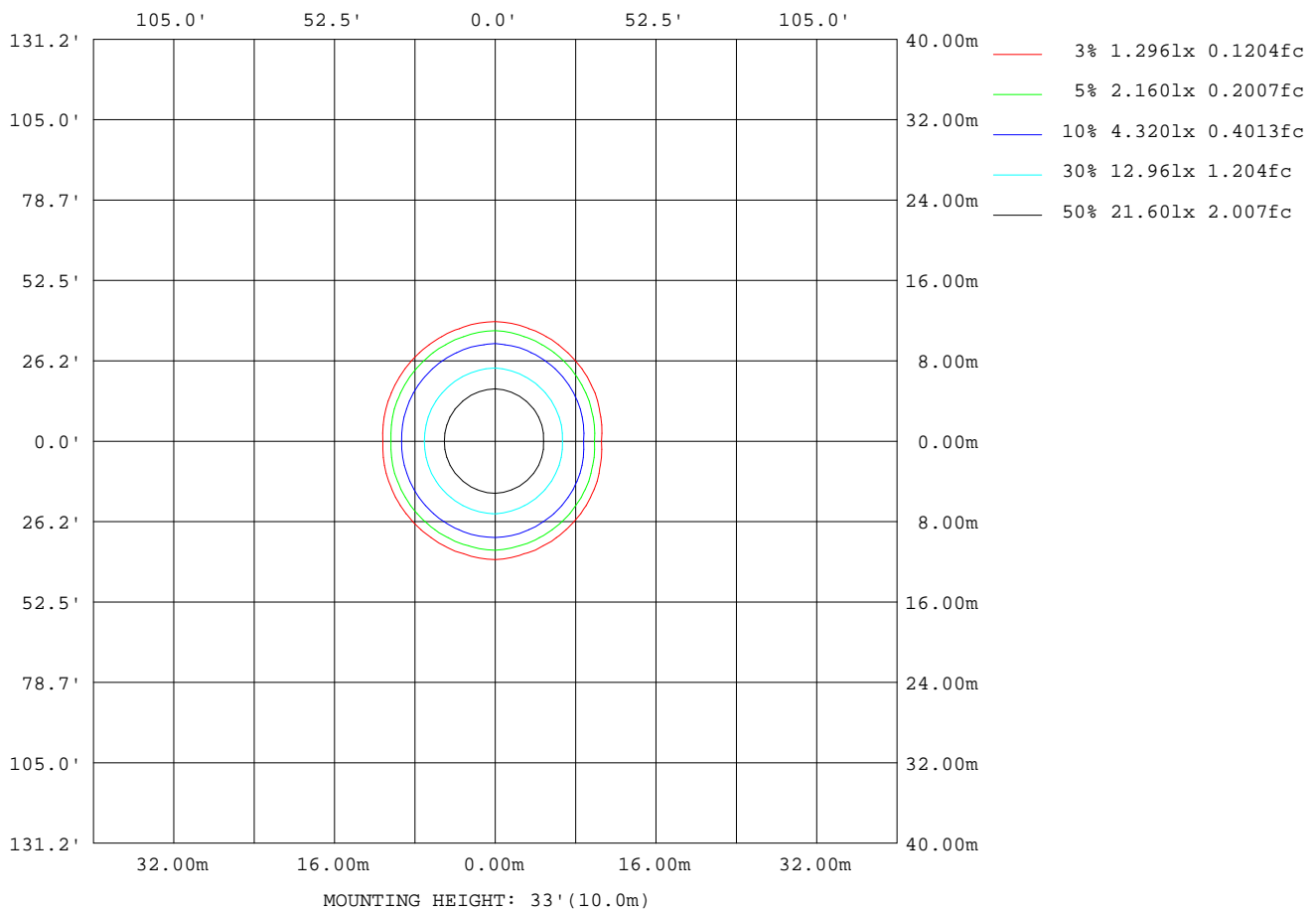
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2021-12-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 8.690m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.18V I:0.2060A P:45.501W PF:0.9597 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5257.86x1 lm		
NAME: LED542 B34 (45W 4000K)	TYPE: 45W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

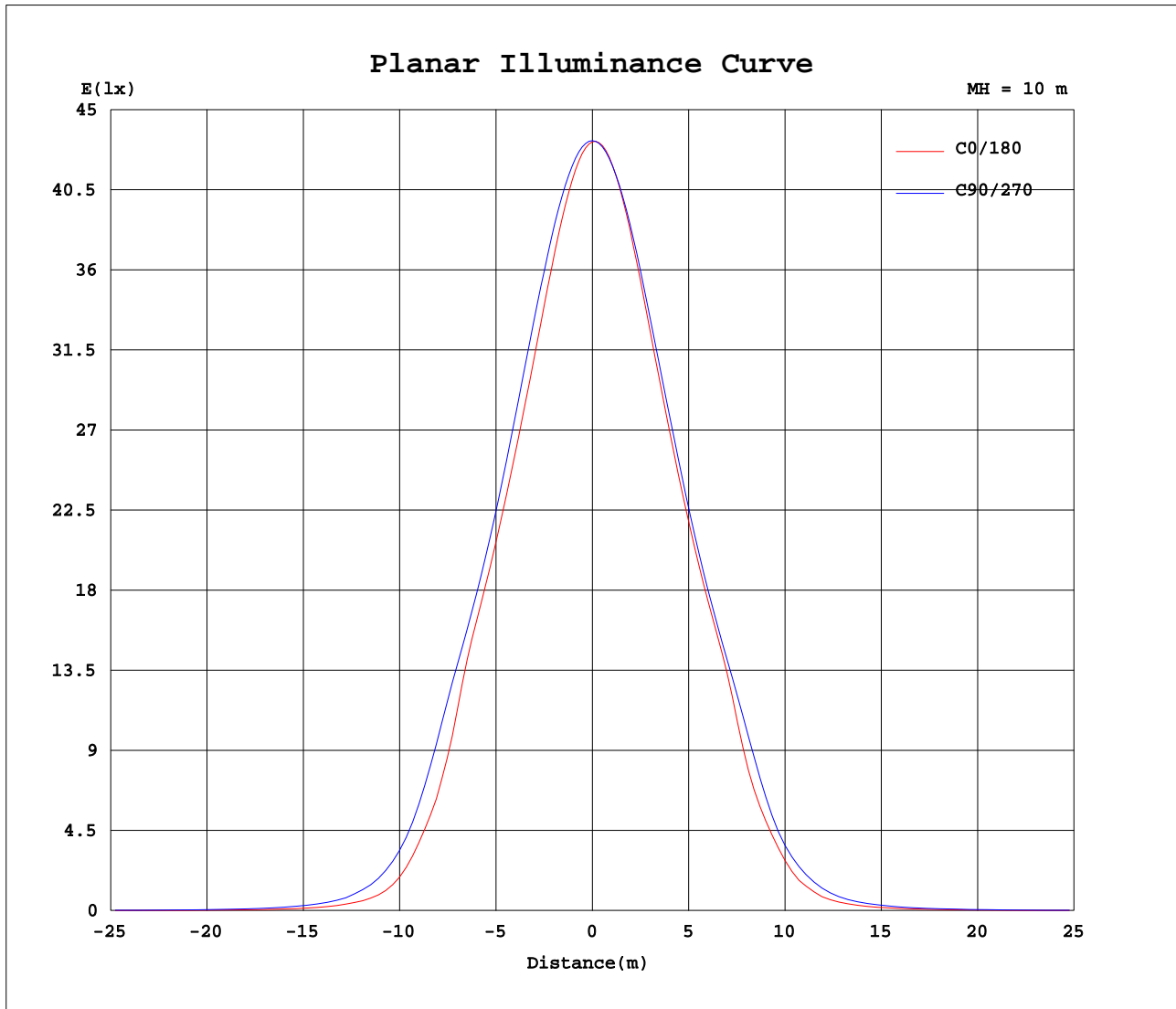
AvgL	cd/m2
L_0~180(65)av	373
L_0~180(75)av	175
L_0~180(85)av	107
L_90~270(65)av	766
L_90~270(75)av	430
L_90~270(85)av	443
L_45(65)av	622
L_45(75)av	336
L_45(85)av	318

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2021-12-09

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 8.690m [K=1.0000]
 Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.690m [K=1.0000]
Remarks:

```