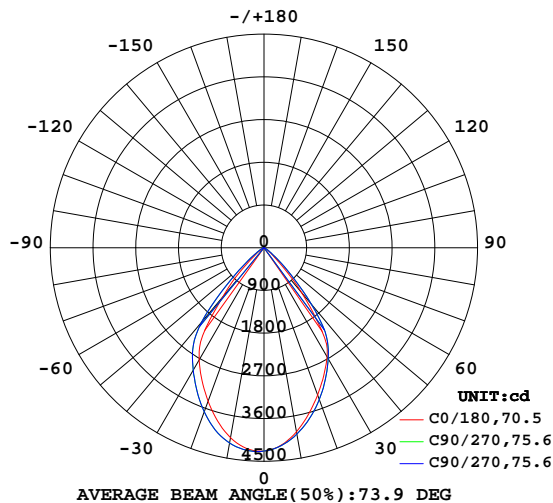


LUMINAIRE PHOTOMETRIC TEST REPORT

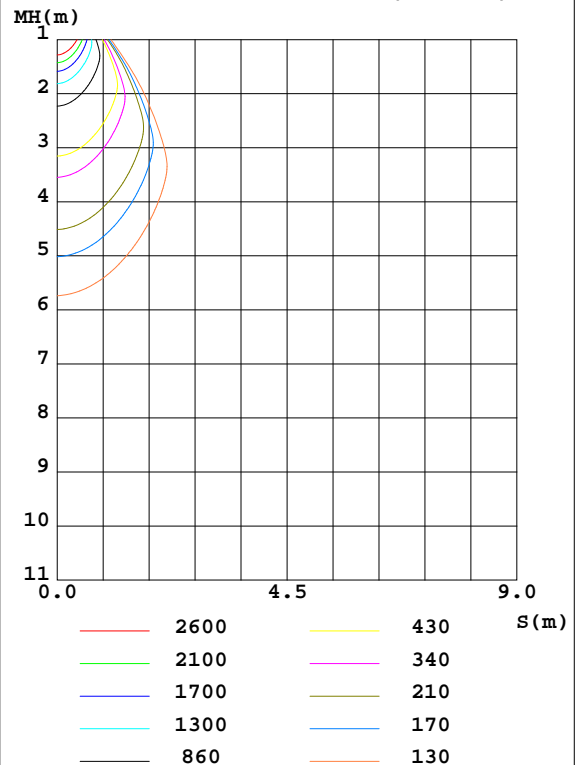
Test:U:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 116.94 lm/W			
MODEL	LED542 B34 (45W 3K)	I _{max} (cd)	4295	S/MH(C0/180)	1.00
NOMINAL POWER(W)	45	LOR(%)	100.0	S/MH(C90/270)	1.07
RATED VOLTAGE(V)		TOTAL FLUX(lm)	5137.5	η UP,DN(C0-180)	0.0,47.4
NOMINAL FLUX(lm)	5137.54	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,52.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)		η down(%)	100.0	CIBSE SHR MAX	1.10

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	3940	3986	4064	4177					0- 10	397.2	397.2	7.73,7.73
20	3303	3405	3441	3679					10- 20	1059	1456	28.3,28.3
30	2658	2705	2732	2982					20- 30	1432	2888	56.2,56.2
40	1243	1556	1361	2041					30- 40	1402	4290	83.5,83.5
50	213.4	364.2	262.8	508.7					40- 50	644.3	4935	96,96
60	46.88	80.87	54.58	111.3					50- 60	147.9	5082	98.9,98.9
70	10.34	23.52	12.75	26.23					60- 70	38.71	5121	99.7,99.7
80	3.098	10.16	3.943	10.81					70- 80	12.41	5134	99.9,99.9
90	0.3110	0.9557	0.4324	1.063					80- 90	3.983	5138	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): 4718.8 lm

%lum = 91.8%

%lamp = 91.8%

Conical surface Flux(120deg): 5082.4 lm

%lum = 98.9%

%lamp = 98.9%

0 - 45 DEG Zonal Flux:4718.8 %lum: 91.8%

0 - 60 DEG Zonal Flux:5082.4 %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

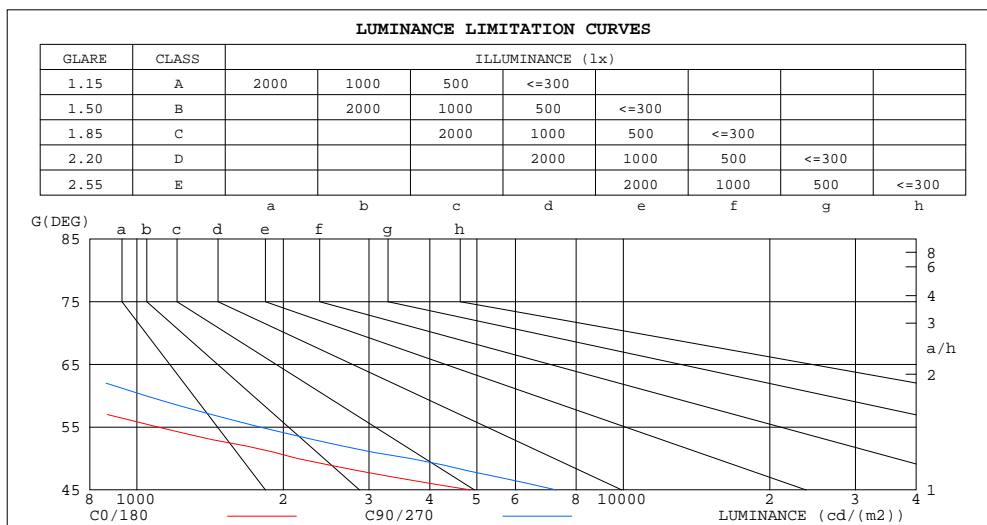
Humidity:65.0%

Test Distance:8.690m [K=1.0000]

Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	86	391
80	115	378
75	153	395
70	195	444
65	319	652
60	604	1045
55	1108	1795
50	2140	3659
45	4846	7282

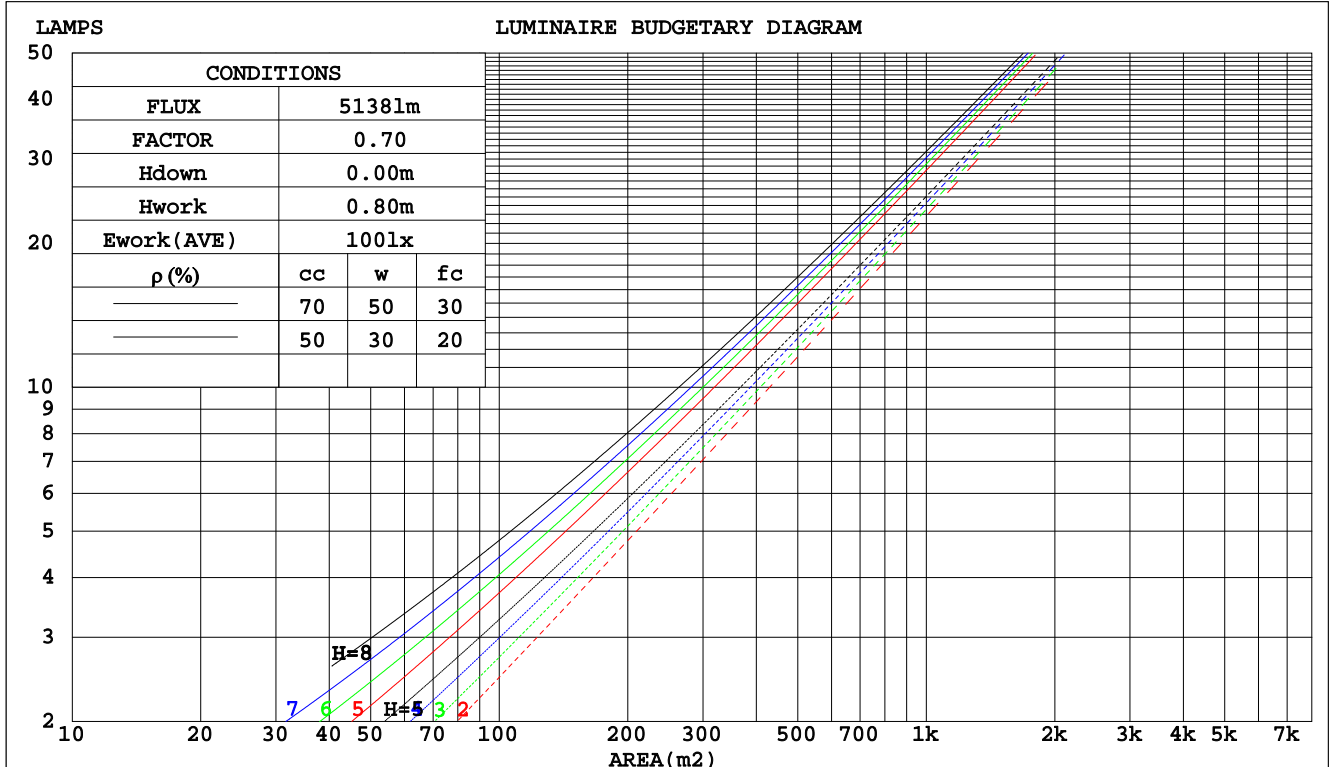
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2021-12-09

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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	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	.83	.89	.85	.81	.87	.83	.80	.84	.81	.79	.77
4.0	.86	.80	.75	.85	.79	.75	.83	.78	.74	.81	.76	.73	.79	.75	.72	.70
5.0	.80	.73	.68	.79	.73	.68	.77	.71	.67	.75	.70	.67	.73	.69	.66	.65
6.0	.74	.67	.62	.73	.67	.62	.71	.66	.62	.70	.65	.61	.69	.64	.61	.59
7.0	.69	.62	.57	.68	.62	.57	.67	.61	.57	.65	.60	.57	.64	.60	.56	.55
8.0	.64	.57	.53	.63	.57	.53	.62	.57	.52	.61	.56	.52	.60	.56	.52	.51
9.0	.60	.53	.49	.59	.53	.49	.58	.53	.49	.57	.52	.48	.56	.52	.48	.47
10.0	.56	.50	.45	.56	.50	.45	.55	.49	.45	.54	.49	.45	.53	.48	.45	.44



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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	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	.195	.111	.035	.189	.108	.034	.176	.101	.032	.164	.095	.030	.153	.089	.029	
2.0	.189	.104	.032	.184	.101	.031	.173	.096	.030	.163	.091	.029	.154	.087	.027	
3.0	.181	.097	.029	.176	.094	.028	.167	.091	.028	.159	.087	.027	.151	.083	.026	
4.0	.173	.090	.026	.169	.088	.026	.161	.085	.025	.153	.082	.025	.146	.080	.024	
5.0	.165	.084	.024	.161	.083	.024	.154	.080	.024	.148	.078	.023	.142	.076	.023	
6.0	.158	.079	.023	.154	.078	.022	.148	.076	.022	.142	.074	.022	.137	.072	.021	
7.0	.150	.074	.021	.148	.073	.021	.142	.072	.021	.137	.070	.020	.132	.068	.020	
8.0	.144	.070	.020	.141	.069	.020	.136	.068	.019	.131	.067	.019	.127	.065	.019	
9.0	.137	.066	.019	.135	.066	.018	.130	.065	.018	.126	.063	.018	.122	.062	.018	
10.0	.131	.063	.017	.129	.062	.017	.125	.061	.017	.121	.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	.147	.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	.147	.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	.040	.026	.015	.013	.008	.005	
8.0	.112	.066	.034	.096	.057	.030	.066	.040	.021	.039	.024	.013	.013	.008	.004	
9.0	.107	.061	.030	.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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm										
NAME: LED542 B34 (45W 3000K)					TYPE: 45W			WEIGHT:		
SPEC.: 3000K					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	14.8	15.9	15.0	16.1	16.2	15.5	16.6	15.7	16.7	16.9
3H	14.6	15.6	14.9	15.8	16.0	15.3	16.3	15.6	16.5	16.7
4H	14.5	15.5	14.8	15.7	15.9	15.2	16.2	15.5	16.4	16.6
6H	14.5	15.3	14.8	15.6	15.8	15.2	16.0	15.5	16.3	16.5
8H	14.4	15.2	14.7	15.5	15.8	15.1	16.0	15.4	16.2	16.5
12H	14.4	15.2	14.7	15.4	15.7	15.1	15.9	15.4	16.2	16.4
4H 2H	14.6	15.5	14.8	15.7	15.9	15.2	16.2	15.5	16.4	16.6
3H	14.4	15.2	14.7	15.5	15.7	15.1	15.9	15.4	16.2	16.4
4H	14.3	15.0	14.7	15.3	15.6	15.0	15.7	15.4	16.0	16.3
6H	14.2	14.8	14.6	15.2	15.5	14.9	15.6	15.3	15.9	16.3
8H	14.2	14.8	14.6	15.1	15.5	14.9	15.5	15.3	15.8	16.2
12H	14.1	14.7	14.5	15.0	15.4	14.9	15.4	15.3	15.8	16.2
8H 4H	14.2	14.8	14.6	15.1	15.5	14.9	15.5	15.3	15.8	16.2
6H	14.1	14.6	14.5	15.0	15.4	14.8	15.3	15.2	15.7	16.1
8H	14.0	14.5	14.5	14.9	15.3	14.8	15.2	15.2	15.6	16.0
12H	14.0	14.3	14.5	14.8	15.3	14.7	15.1	15.2	15.5	16.0
12H 4H	14.1	14.7	14.5	15.0	15.4	14.8	15.4	15.2	15.7	16.1
6H	14.0	14.5	14.5	14.9	15.3	14.8	15.2	15.2	15.6	16.0
8H	14.0	14.3	14.5	14.8	15.3	14.7	15.1	15.2	15.5	16.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.6 / -10.5					+ 2.8 / - 8.5				
1.5H	+ 4.5 / - 7.6					+ 4.5 / - 7.4				
2.0H	+ 5.6 / - 6.8					+ 6.3 / - 6.8				

CIE Pub.117, 5138 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 5.7)
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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

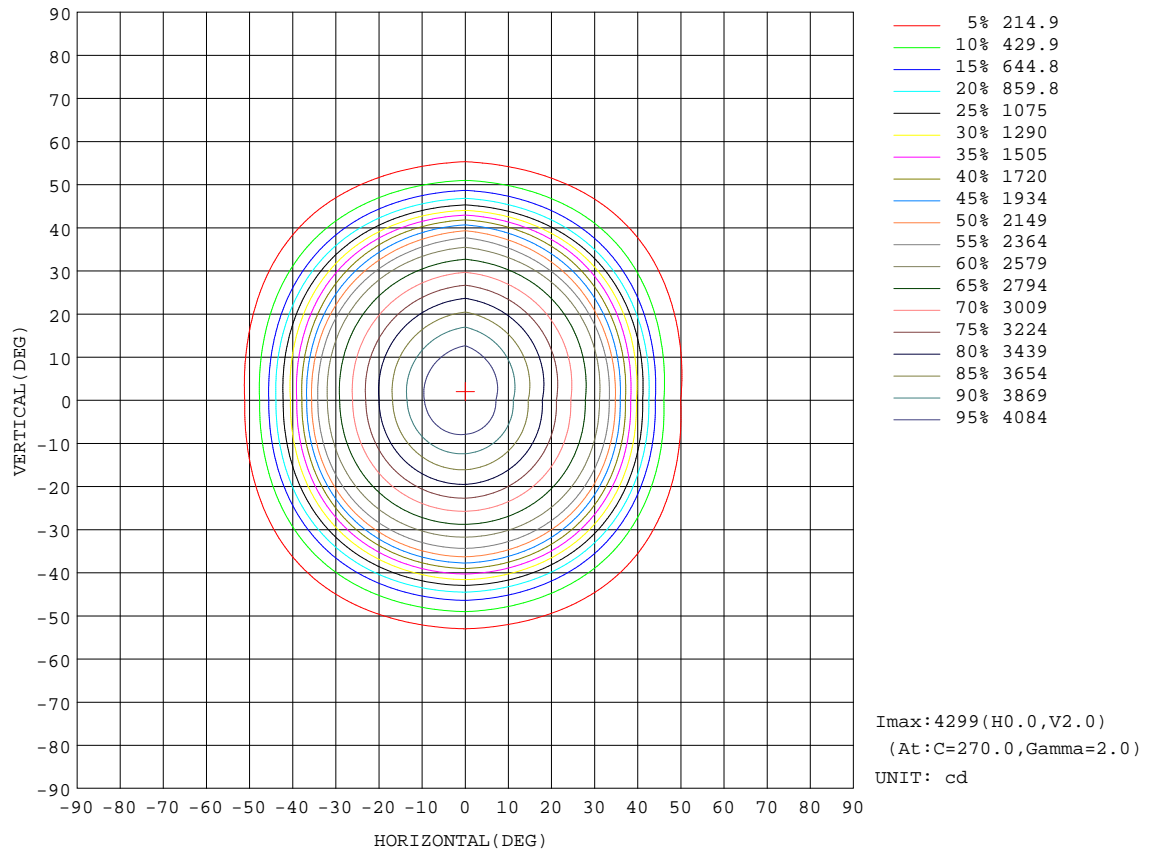
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	81	74	69	80	73	69	80	73	69	65
0.80	90	83	78	89	82	78	88	82	78	73
1.00	95	89	85	94	88	84	93	88	84	79
1.25	100	94	90	99	94	90	97	92	89	84
1.50	103	98	94	102	97	94	100	96	92	88
2.00	107	102	99	105	101	98	103	99	96	91
2.50	109	104	101	107	103	100	104	101	98	92
3.00	111	107	104	109	105	103	105	103	100	94
4.00	113	110	107	111	108	106	107	105	103	96
5.00	114	111	109	112	110	108	108	106	105	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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

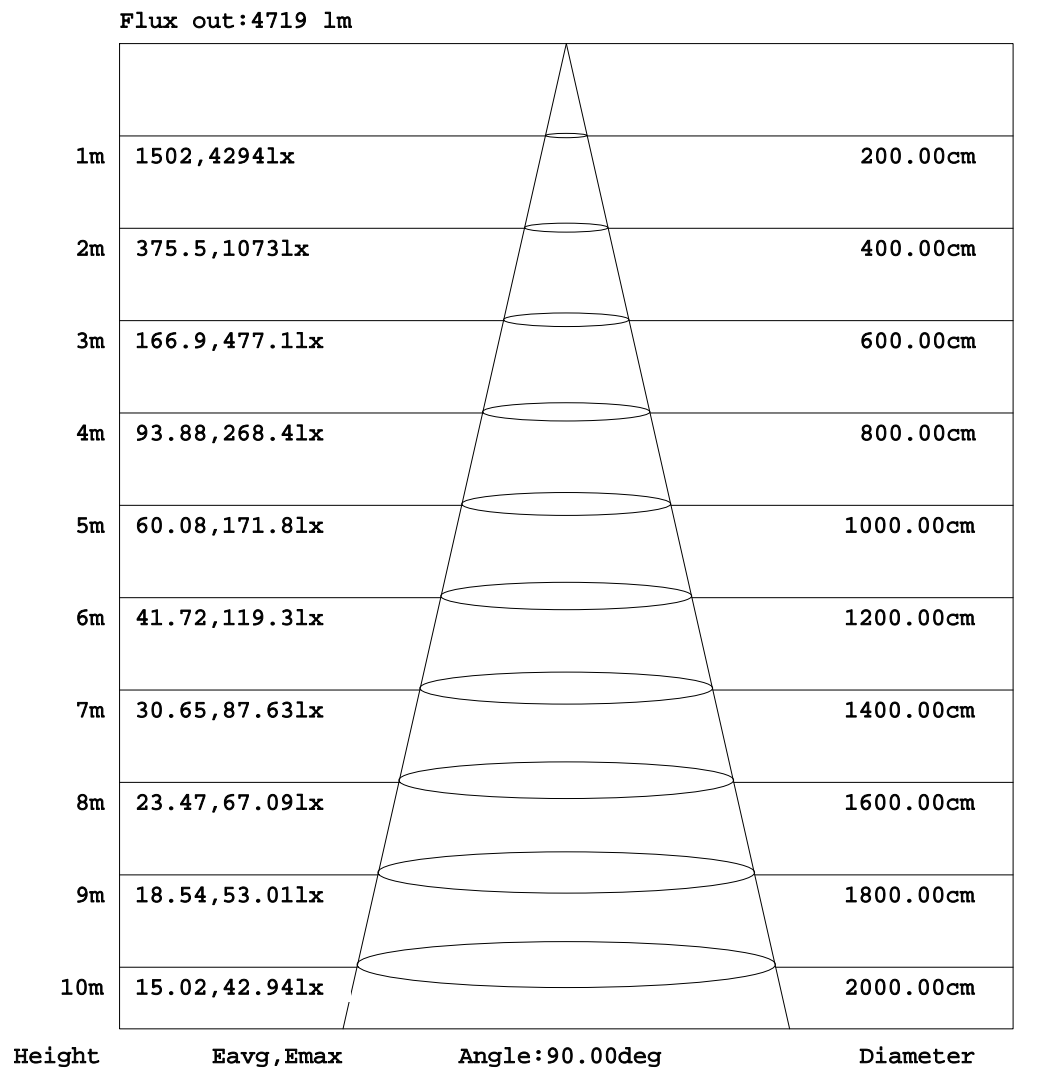


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2021-12-09

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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:



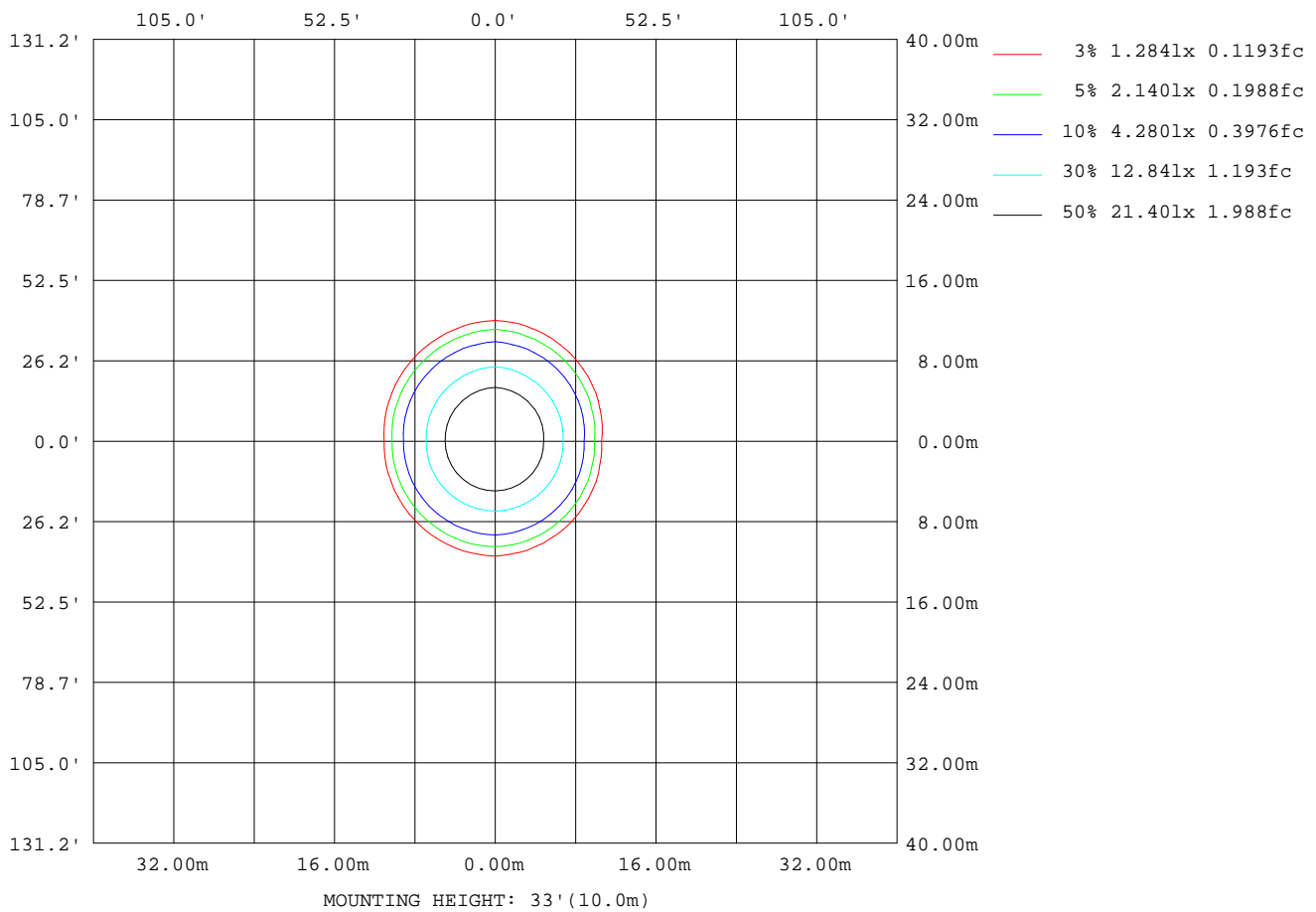
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	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:230.16V I:0.1994A P:43.932W PF:0.9575 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5137.54x1 lm		
NAME: LED542 B34 (45W 3000K)	TYPE: 45W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.: #1
MFR.:	SUR.: 0.155	Shielding Angle:

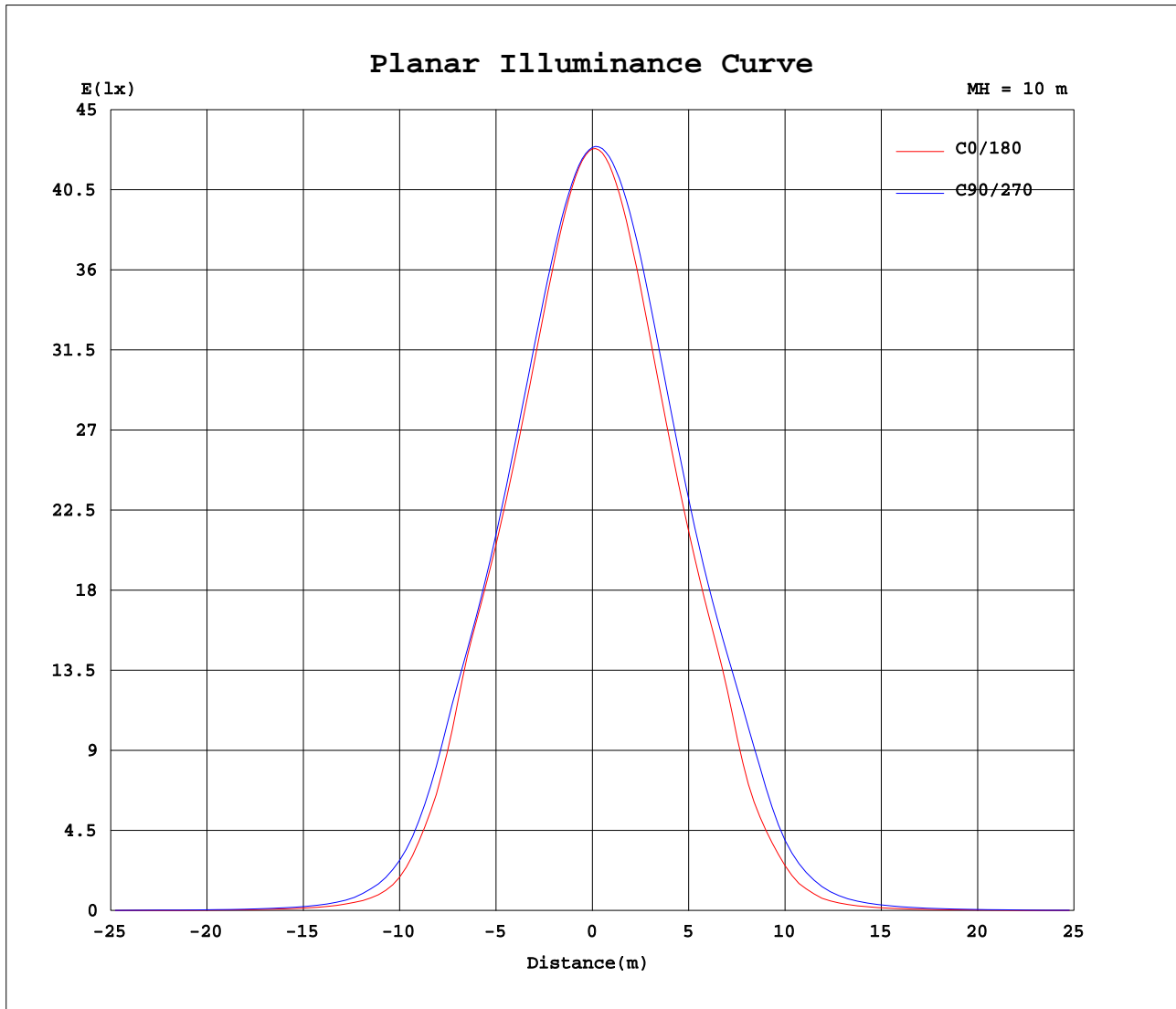
AvgL	cd/m2
L_0~180(65)av	360
L_0~180(75)av	168
L_0~180(85)av	103
L_90~270(65)av	741
L_90~270(75)av	404
L_90~270(85)av	413
L_45(65)av	601
L_45(75)av	317
L_45(85)av	298

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:

```