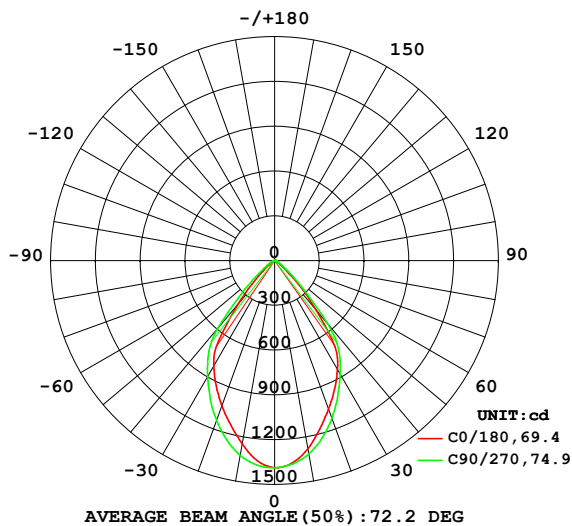


## LUMINAIRE PHOTOMETRIC TEST REPORT

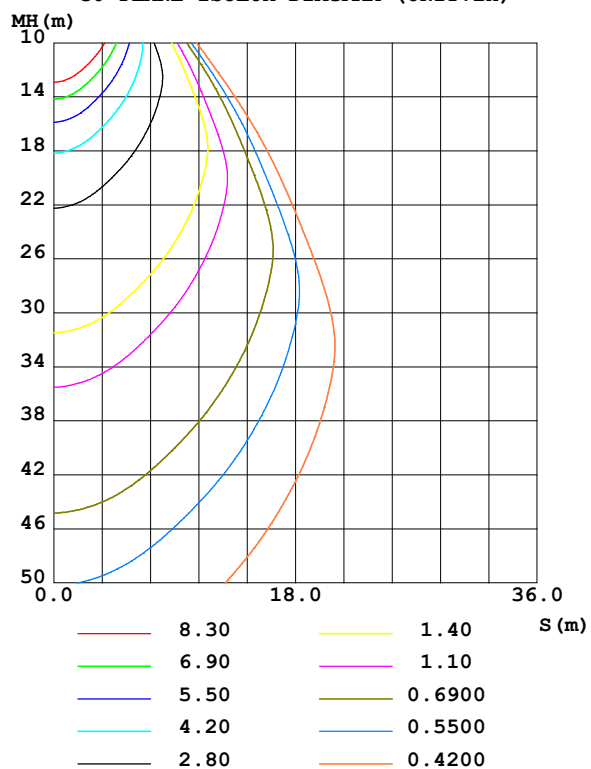
Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 106.93 lm/W			
MODEL	LED541 B34V2	I <sub>max</sub> (cd)	1388	S/MH (C0/180)	0.93
NOMINAL POWER(W)	15	LOR (%)	100.0	S/MH (C90/270)	1.00
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1665.2	η UP,DN (C0-180)	0.0,50.4
NOMINAL FLUX(lm)	1665.2	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,49.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	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: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3 °C  
Operators: DAMIN  
Test Date: 2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity: 65.0%  
Test Distance: 9.640m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1249	1272	1327	1318	1282	1287	1316	1299	0- 10	127.8	127.8	7.68,7.68
20	1035	1030	1140	1114	1059	1047	1124	1085	10- 20	334.5	462.3	27.8,27.8
30	817.7	804.5	898.6	825.7	843.9	815.3	879.3	790.6	20- 30	440.1	902.4	54.2,54.2
40	383.8	622.5	597.7	484.3	431.2	625.6	557.9	439.7	30- 40	430.7	1333	80.1,80.1
50	79.92	189.5	152.8	104.7	95.22	204.3	137.2	71.40	40- 50	231.4	1565	94,94
60	21.44	65.12	42.49	23.42	24.51	67.37	42.56	22.00	50- 60	63.64	1628	97.8,97.8
70	7.595	17.85	18.13	12.10	8.993	19.73	17.66	10.88	60- 70	23.81	1652	99.2,99.2
80	3.017	5.993	9.244	4.971	3.867	7.002	8.719	4.258	70- 80	9.558	1662	99.8,99.8
90	0.5159	1.939	1.675	1.239	0.7561	1.996	0.1216	0.5041	80- 90	3.677	1665	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): 1482.4 lm

%lum = 89.0%

%lamp = 89.0%

Conical surface Flux(130deg): 1642.8 lm

%lum = 98.7%

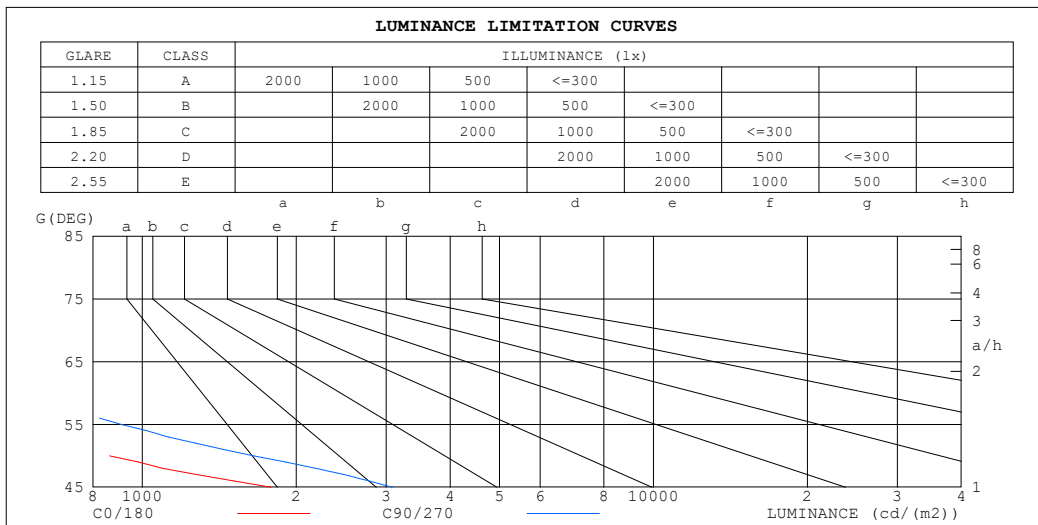
%lamp = 98.7%

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2023-04-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.640m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	120	438
80	121	370
75	135	357
70	154	368
65	201	444
60	298	590
55	470	910
50	863	1651
45	1784	3083

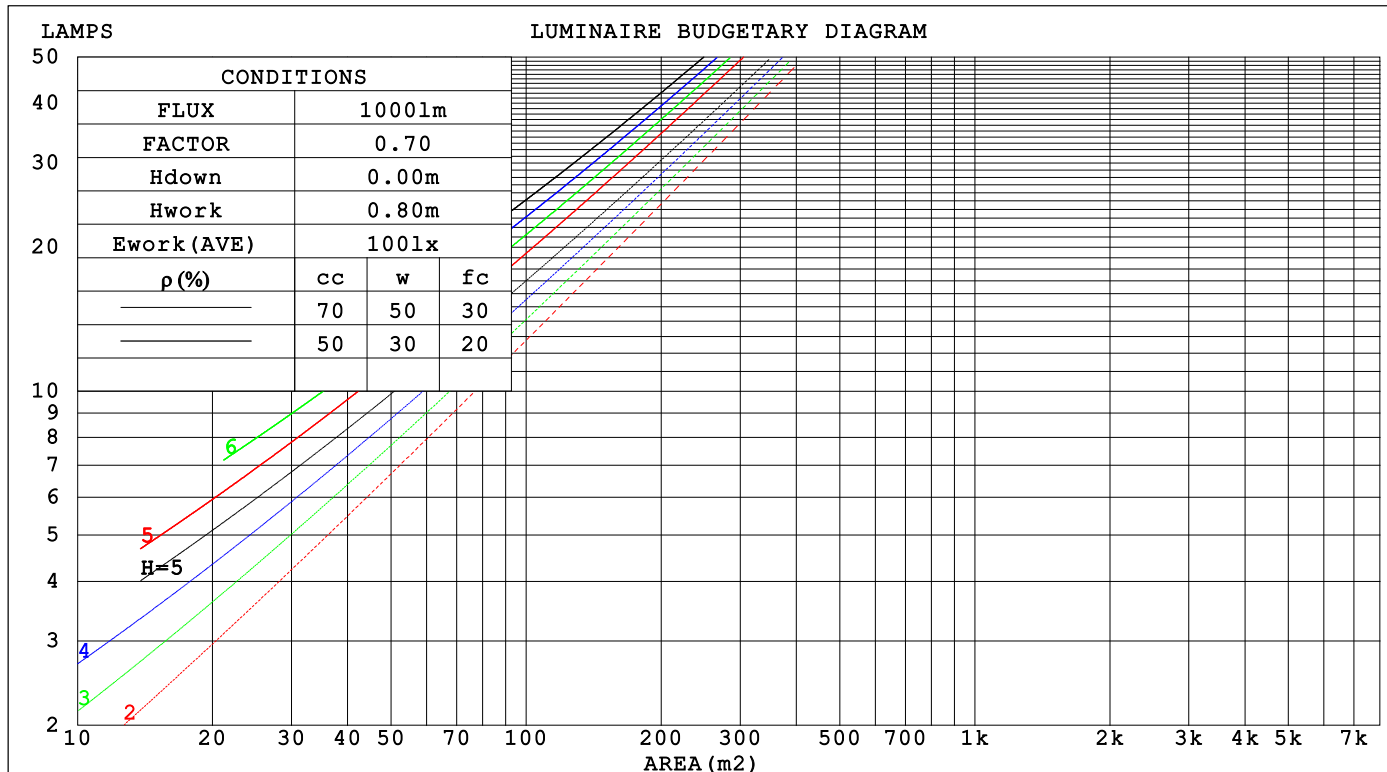
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3 °C  
Operators: DAMIN  
Test Date: 2023-04-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity: 65.0%  
Test Distance: 9.640m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
p <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p <sub>fc</sub>	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	1.09	1.07	1.04	1.07	1.05	1.02	1.03	1.01	.99	.99	.98	.96	.96	.95	.94	.92
2.0	1.00	.96	.92	.99	.94	.91	.95	.92	.89	.92	.89	.87	.90	.87	.85	.83
3.0	.92	.87	.82	.91	.86	.81	.88	.84	.80	.86	.82	.79	.83	.80	.78	.76
4.0	.85	.79	.74	.84	.78	.73	.82	.77	.73	.80	.75	.72	.78	.74	.71	.69
5.0	.79	.72	.67	.78	.71	.67	.76	.70	.66	.74	.69	.65	.72	.68	.65	.63
6.0	.73	.66	.61	.72	.65	.61	.70	.65	.60	.69	.64	.60	.67	.63	.60	.58
7.0	.68	.61	.56	.67	.60	.56	.65	.60	.55	.64	.59	.55	.63	.58	.55	.53
8.0	.63	.56	.52	.62	.56	.51	.61	.55	.51	.60	.55	.51	.59	.54	.51	.49
9.0	.59	.52	.48	.58	.52	.48	.57	.51	.47	.56	.51	.47	.55	.51	.47	.46
10.0	.55	.49	.44	.55	.48	.44	.54	.48	.44	.53	.48	.44	.52	.47	.44	.42



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:9.640m [K=1.0000]  
Remarks:

### WEC AND CCEC

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz			UTHDi:0.00% ITHDi:0.00% KDisp:0			Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)			TYPE: 15W			WEIGHT:		
SPEC.: 3000K			DIM.:			SERIAL No.:		
MFR.: EVERFINE			SUR.: 1.2*0.12			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	.203	.115	.036	.196	.112	.035	.183	.105	.034	.171	.099	.032	.161	.093	.030		
2.0	.196	.107	.033	.190	.105	.032	.179	.100	.031	.169	.095	.030	.160	.090	.029		
3.0	.187	.100	.030	.182	.097	.029	.173	.094	.028	.164	.090	.028	.156	.086	.027		
4.0	.178	.093	.027	.174	.091	.027	.166	.088	.026	.158	.085	.026	.151	.082	.025		
5.0	.169	.086	.025	.166	.085	.025	.158	.083	.024	.152	.080	.024	.146	.078	.023		
6.0	.161	.081	.023	.158	.080	.023	.152	.078	.023	.146	.076	.022	.140	.074	.022		
7.0	.154	.076	.022	.151	.075	.021	.145	.073	.021	.140	.072	.021	.135	.070	.021		
8.0	.146	.072	.020	.144	.071	.020	.139	.069	.020	.134	.068	.020	.129	.066	.019		
9.0	.140	.068	.019	.137	.067	.019	.133	.066	.019	.128	.064	.018	.124	.063	.018		
10.0	.133	.064	.018	.131	.063	.018	.127	.062	.018	.123	.061	.017	.120	.060	.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	.173	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016		
2.0	.159	.132	.110	.137	.114	.095	.094	.079	.066	.054	.046	.039	.017	.015	.013		
3.0	.149	.114	.086	.127	.098	.075	.087	.068	.052	.050	.040	.031	.016	.013	.010		
4.0	.139	.099	.069	.120	.086	.060	.082	.060	.042	.048	.035	.025	.015	.011	.008		
5.0	.131	.088	.056	.113	.076	.049	.078	.053	.035	.045	.031	.020	.015	.010	.007		
6.0	.125	.079	.047	.107	.069	.041	.074	.048	.029	.043	.028	.017	.014	.009	.006		
7.0	.118	.072	.039	.102	.062	.034	.070	.044	.024	.041	.026	.014	.013	.008	.005		
8.0	.113	.066	.034	.097	.057	.029	.067	.040	.021	.039	.024	.012	.013	.008	.004		
9.0	.108	.061	.029	.093	.053	.026	.064	.037	.018	.037	.022	.011	.012	.007	.004		
10.0	.103	.057	.026	.089	.049	.022	.062	.035	.016	.036	.020	.010	.012	.007	.003		

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:9.640m [K=1.0000]  
Remarks:

### UGR(Unified Glare Rating) Table

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm										
NAME: LED541 B34V2 (15W 3000K)					TYPE: 15W			WEIGHT:		
SPEC.: 3000K					DIM.:			SERIAL No.:		
MFR.: EVERFINE					SUR.: 1.2*0.12			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	12.3	13.4	12.6	13.6	13.8	13.8	14.9	14.0	15.1	15.3
3H	12.2	13.2	12.4	13.4	13.6	13.7	14.7	14.0	14.9	15.2
4H	12.1	13.1	12.4	13.3	13.5	13.7	14.6	14.0	14.9	15.1
6H	12.0	12.9	12.3	13.2	13.4	13.6	14.5	13.9	14.8	15.0
8H	12.0	12.8	12.3	13.1	13.4	13.6	14.5	13.9	14.7	15.0
12H	11.9	12.8	12.3	13.0	13.3	13.6	14.4	13.9	14.7	15.0
4H 2H	12.2	13.2	12.5	13.4	13.7	13.7	14.6	13.9	14.8	15.1
3H	12.1	12.9	12.4	13.2	13.5	13.6	14.4	13.9	14.7	15.0
4H	12.0	12.8	12.4	13.1	13.4	13.6	14.3	13.9	14.6	14.9
6H	12.0	12.6	12.4	13.0	13.3	13.6	14.2	13.9	14.5	14.9
8H	11.9	12.5	12.3	12.9	13.3	13.6	14.2	14.0	14.5	14.9
12H	11.9	12.4	12.3	12.8	13.2	13.6	14.1	14.0	14.5	14.9
8H 4H	11.9	12.5	12.3	12.9	13.3	13.5	14.1	13.9	14.4	14.8
6H	11.9	12.4	12.3	12.8	13.2	13.5	14.0	13.9	14.4	14.8
8H	11.9	12.3	12.3	12.7	13.1	13.5	13.9	13.9	14.3	14.8
12H	11.8	12.2	12.3	12.6	13.1	13.5	13.9	14.0	14.3	14.8
12H 4H	11.9	12.5	12.3	12.8	13.2	13.4	14.0	13.8	14.3	14.7
6H	11.8	12.3	12.3	12.7	13.1	13.4	13.9	13.9	14.3	14.7
8H	11.8	12.2	12.3	12.6	13.1	13.4	13.8	13.9	14.3	14.7
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.7 / - 6.9					+ 2.4 / - 5.3				
1.5H	+ 3.4 / - 5.9					+ 2.9 / - 4.1				
2.0H	+ 4.2 / - 5.3					+ 4.6 / - 4.2				

CIE Pub.117, 1665 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 1.8)  
Area: 0.144 m2

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:9.640m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

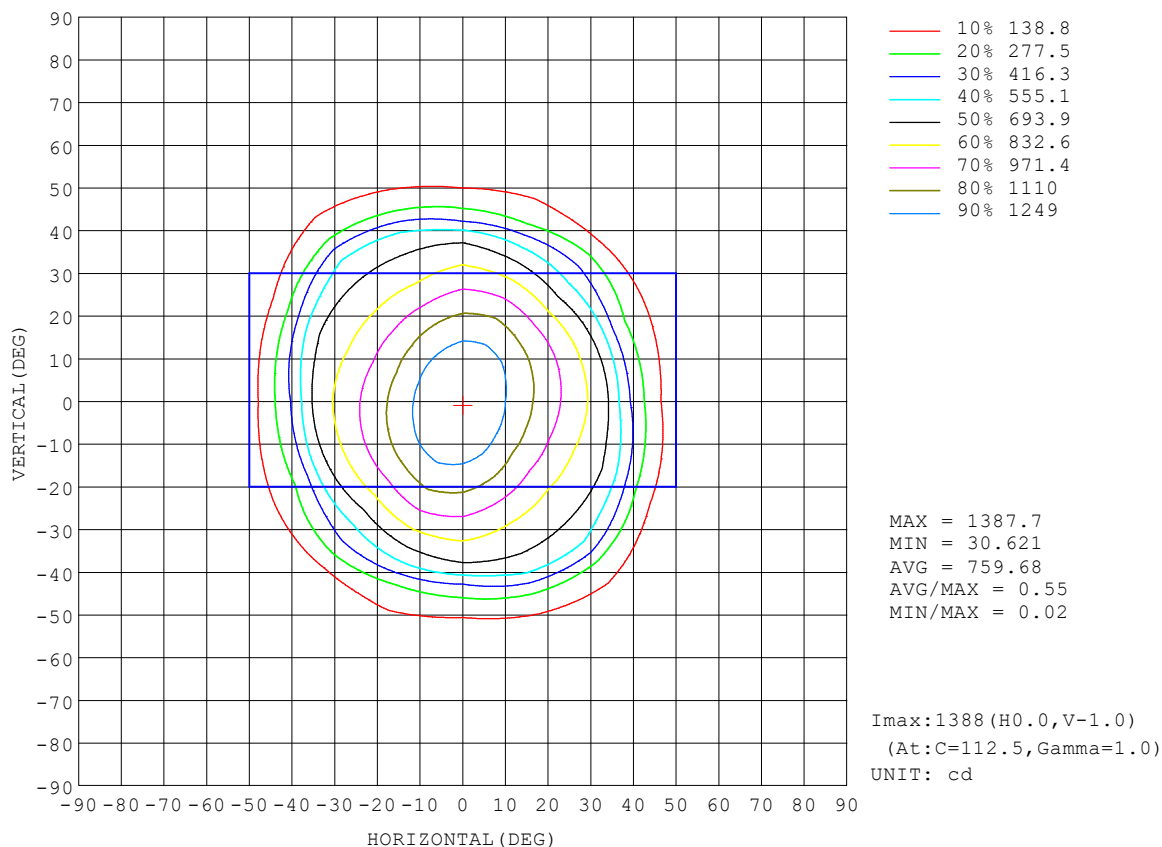
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	79	71	66	78	71	66	77	70	66	62
0.80	88	80	76	87	80	75	86	79	75	71
1.00	94	87	82	93	86	82	91	87	82	77
1.25	99	92	88	98	92	88	96	91	87	82
1.50	102	96	92	101	96	92	98	94	91	86
2.00	106	101	97	104	100	96	102	98	95	89
2.50	108	103	100	106	102	99	103	100	97	91
3.00	110	106	103	108	104	101	105	102	99	93
4.00	112	109	106	110	107	105	106	104	102	95
5.00	114	111	108	111	109	107	107	105	104	96
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: DAMIN  
Test Date: 2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity: 65.0%  
Test Distance: 9.640m [K=1.0000]  
Remarks:

### ISOCANDELA DIAGRAM

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

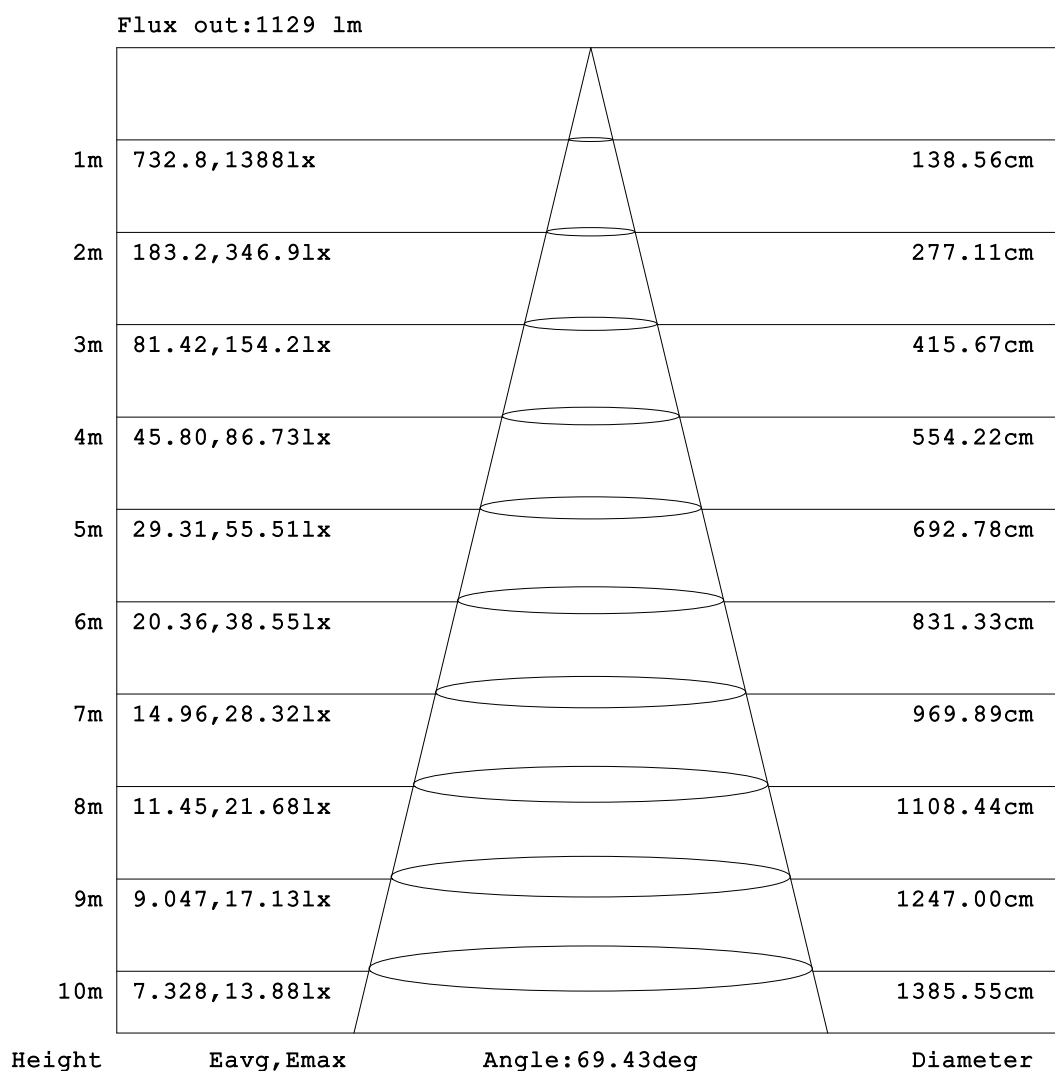


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:9.640m [K=1.0000]  
Remarks:

**AAI Figure**

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:



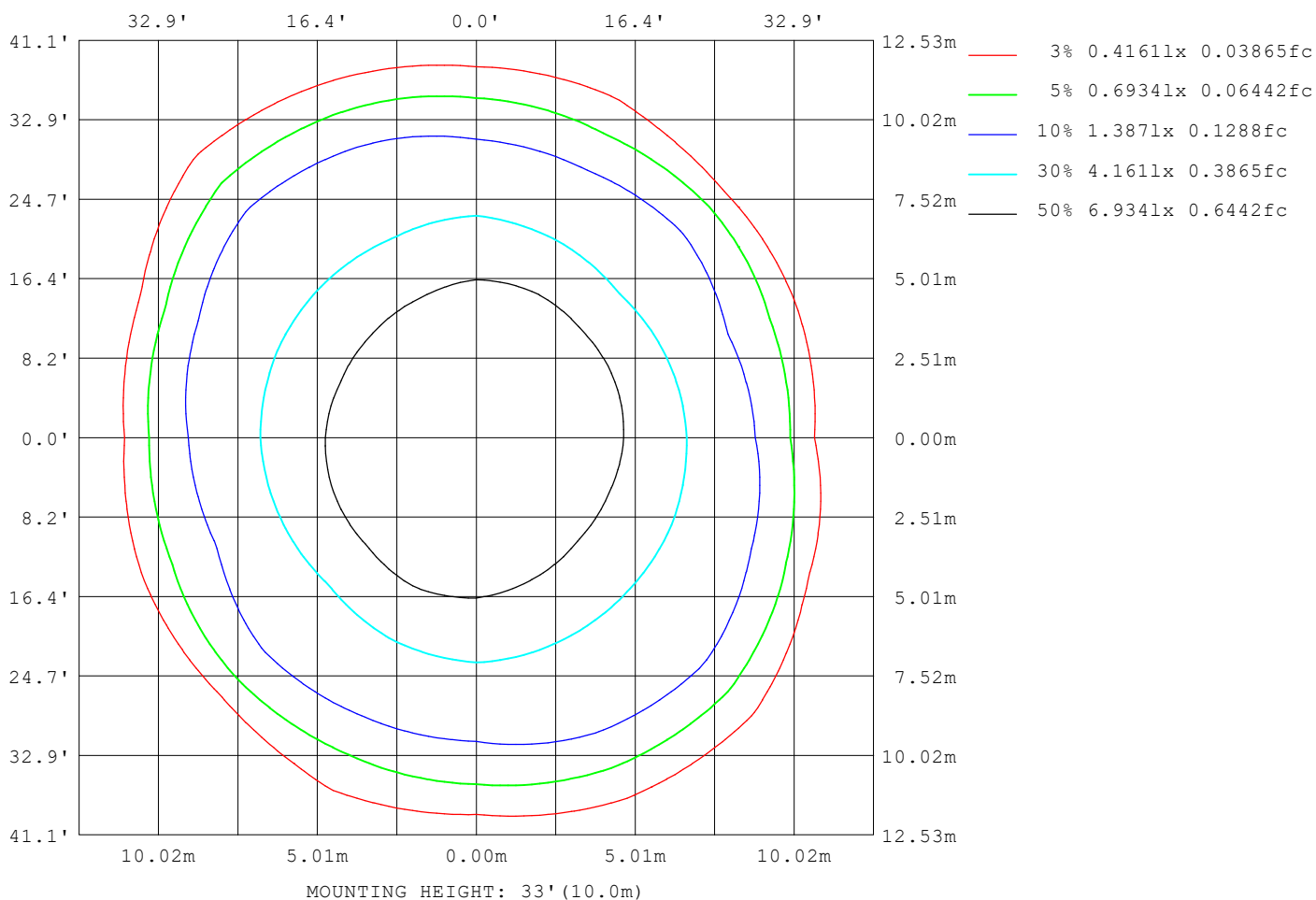
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 Operators:DAMIN  
 Test Date:2023-04-11

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.640m [K=1.0000]  
 Remarks:

### ISOLUX DIAGRAM

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: DAMIN  
Test Date: 2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity: 65.0%  
Test Distance: 9.640m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm		
NAME: LED541 B34V2 (15W 3000K)	TYPE: 15W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

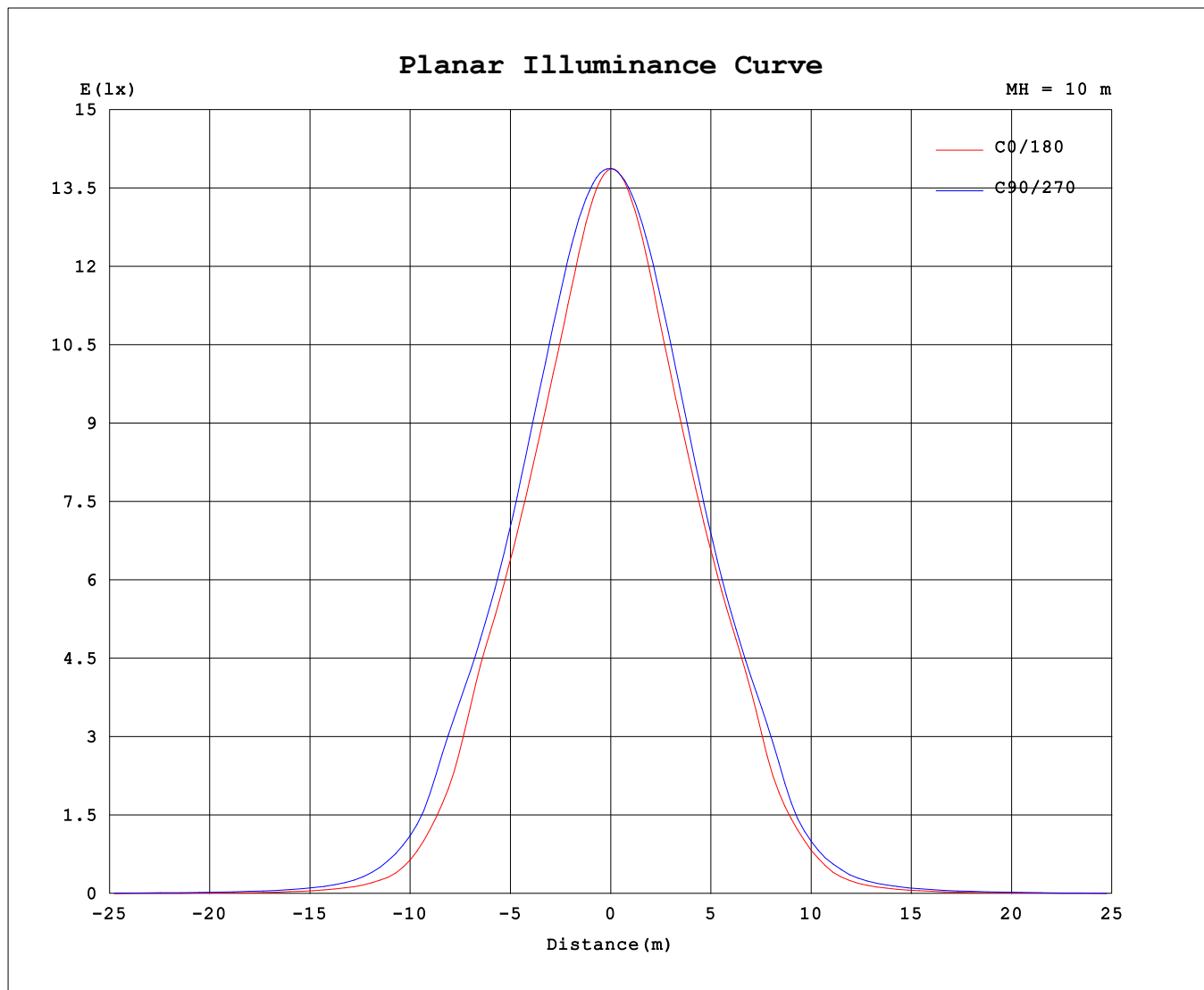
AvgL	cd/m2
L_0~180 (65) av	220
L_0~180 (75) av	149
L_0~180 (85) av	142
L_90~270 (65) av	438
L_90~270 (75) av	354
L_90~270 (85) av	413
L_45 (65) av	464
L_45 (75) av	227
L_45 (85) av	258

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-04-11

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity:65.0%  
Test Distance:9.640m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3 °C  
Operators: DAMIN  
Test Date: 2023-04-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
Humidity: 65.0%  
Test Distance: 9.640m [K=1.0000]  
Remarks:

<b>Test:U:230.68V I:0.0824A P:15.572W PF:0.8189 Freq:49.99Hz</b> <b>UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1665.2x1 lm</b>		
<b>NAME: LED541 B34V2 (15W 3000K)</b>	<b>TYPE: 15W</b>	<b>WEIGHT:</b>
<b>SPEC.: 3000K</b>	<b>DIM.:</b>	<b>SERIAL No.:</b>
<b>MFR.: EVERFINE</b>	<b>SUR.: 1.2*0.12</b>	<b>Shielding Angle:</b>

UNIT: cd

[illegible]

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.640m [K=1.0000]
Remarks:

```