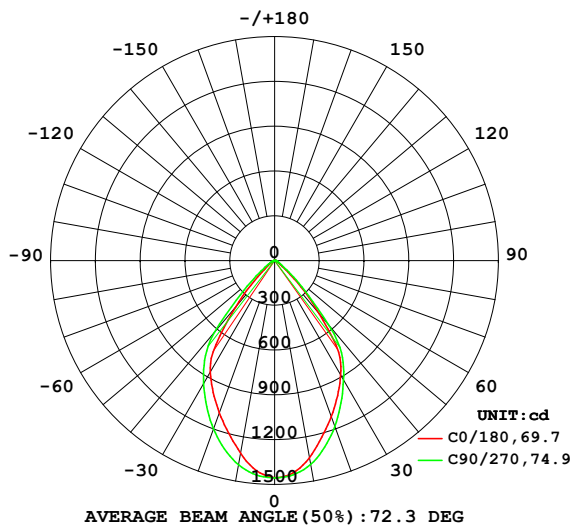


## LUMINAIRE PHOTOMETRIC TEST REPORT

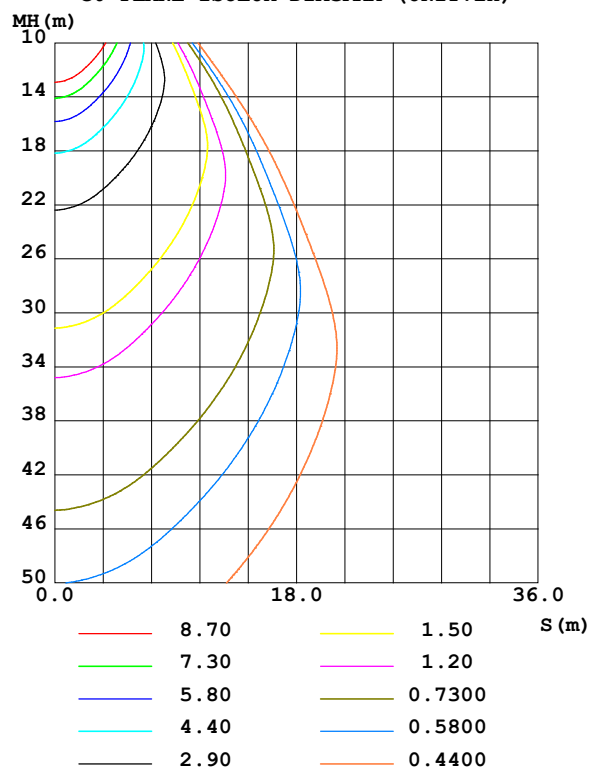
Test:U:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 112.54 lm/W			
MODEL	LED541 B34V2	I <sub>max</sub> (cd)	1455	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)	1748.4	η UP,DN (C0-180)	0.0,50.5
NOMINAL FLUX(lm)	1748.38	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,49.5
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	1311	1367	1390	1353	1343	1380	1388	1337	0- 10	134.2	134.2	7.68,7.68
20	1084	1140	1199	1101	1111	1163	1182	1081	10- 20	351.2	485.4	27.8,27.8
30	862.3	843.7	952.1	864.8	884.9	853.5	925.2	834.9	20- 30	461.9	947.2	54.2,54.2
40	408.6	480.9	627.6	688.4	467.2	488.9	568.7	627.1	30- 40	452.6	1400	80.1,80.1
50	83.58	98.11	159.8	228.4	101.6	100.3	141.9	189.5	40- 50	242.4	1642	93.9,93.9
60	22.41	24.39	45.80	73.47	26.99	25.99	42.19	66.57	50- 60	67.03	1709	97.8,97.8
70	8.014	13.08	19.18	21.63	9.560	14.39	18.42	16.20	60- 70	25.11	1734	99.2,99.2
80	3.243	5.996	9.522	5.644	4.066	6.919	9.330	4.832	70- 80	10.12	1744	99.8,99.8
90	0.5604	1.945	1.844	1.358	0.8100	1.889	0.1275	0.5824	80- 90	3.884	1748	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): 1556.3 lm

%lum = 89.0%

%lamp = 89.0%

Conical surface Flux(130deg): 1724.7 lm

%lum = 98.6%

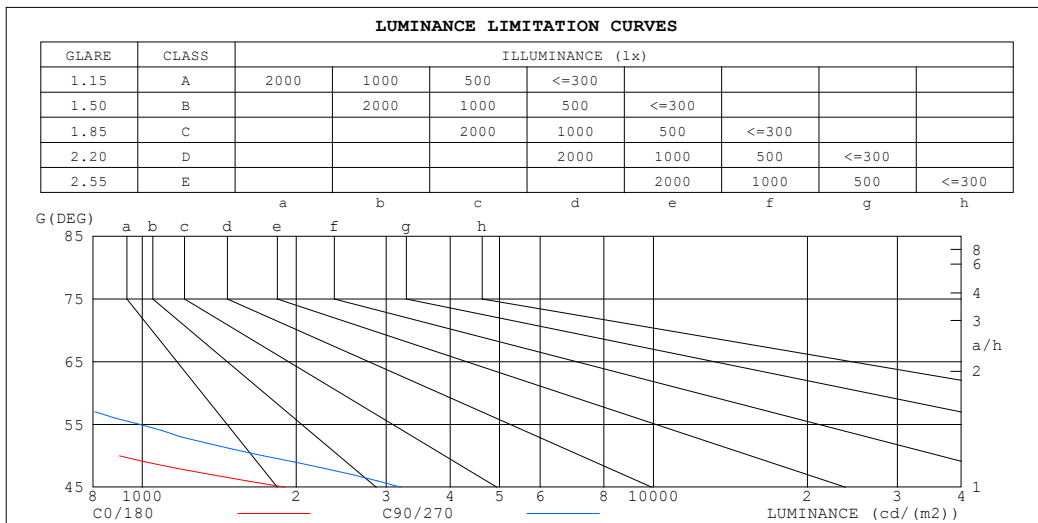
%lamp = 98.6%

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:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	130	445
80	130	381
75	144	374
70	163	389
65	210	476
60	311	636
55	496	991
50	903	1727
45	1901	3206

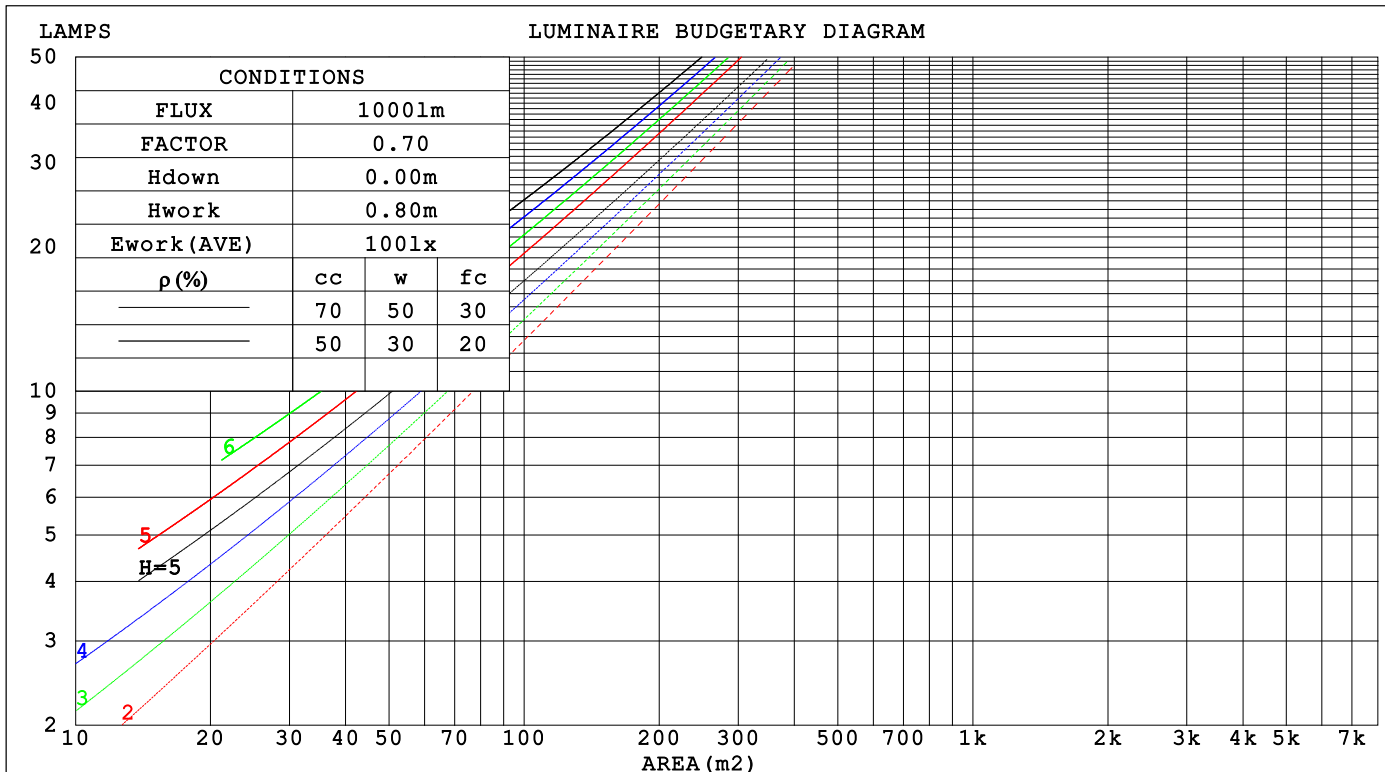
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: DAMIN  
Test Date: 2023-04-11

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:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz			UTHDi:0.00% ITHDi:0.00% KDisp:0			Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)			TYPE: 15W			WEIGHT:		
SPEC.: 4000K			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:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	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	.037	.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	.098	.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	.159	.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:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm										
NAME: LED541 B34V2 (15W 4000K)					TYPE: 15W			WEIGHT:		
SPEC.: 4000K					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	11.1	12.2	11.3	12.4	12.5	12.6	13.7	12.9	13.9	14.1
3H	10.9	11.9	11.2	12.1	12.4	12.6	13.6	12.8	13.8	14.0
4H	10.9	11.8	11.1	12.0	12.3	12.5	13.5	12.8	13.7	13.9
6H	10.8	11.7	11.1	11.9	12.2	12.5	13.4	12.8	13.6	13.9
8H	10.7	11.6	11.1	11.9	12.1	12.5	13.3	12.8	13.6	13.9
12H	10.7	11.5	11.0	11.8	12.1	12.5	13.3	12.8	13.6	13.9
4H 2H	10.9	11.8	11.1	12.0	12.3	12.4	13.3	12.7	13.6	13.8
3H	10.7	11.6	11.1	11.8	12.1	12.3	13.2	12.7	13.4	13.7
4H	10.7	11.4	11.0	11.7	12.1	12.3	13.1	12.7	13.4	13.7
6H	10.6	11.3	11.0	11.6	12.0	12.4	13.0	12.7	13.3	13.7
8H	10.6	11.2	11.0	11.6	11.9	12.4	13.0	12.8	13.3	13.7
12H	10.6	11.1	11.0	11.5	11.9	12.4	12.9	12.8	13.3	13.7
8H 4H	10.6	11.2	11.0	11.6	11.9	12.2	12.8	12.6	13.2	13.6
6H	10.6	11.1	11.0	11.5	11.9	12.3	12.8	12.7	13.2	13.6
8H	10.5	11.0	11.0	11.4	11.8	12.3	12.7	12.8	13.2	13.6
12H	10.5	10.9	11.0	11.3	11.8	12.4	12.7	12.8	13.2	13.6
12H 4H	10.6	11.1	11.0	11.5	11.9	12.2	12.7	12.6	13.1	13.5
6H	10.5	11.0	11.0	11.4	11.8	12.2	12.7	12.7	13.1	13.5
8H	10.5	10.9	11.0	11.3	11.8	12.3	12.6	12.7	13.1	13.6
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.5 / - 6.9					+ 2.5 / - 5.3				
1.5H	+ 4.2 / - 6.4					+ 4.0 / - 5.7				
2.0H	+ 5.1 / - 3.9					+ 5.5 / - 4.2				

CIE Pub.117, 1748 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 1.9)  
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:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

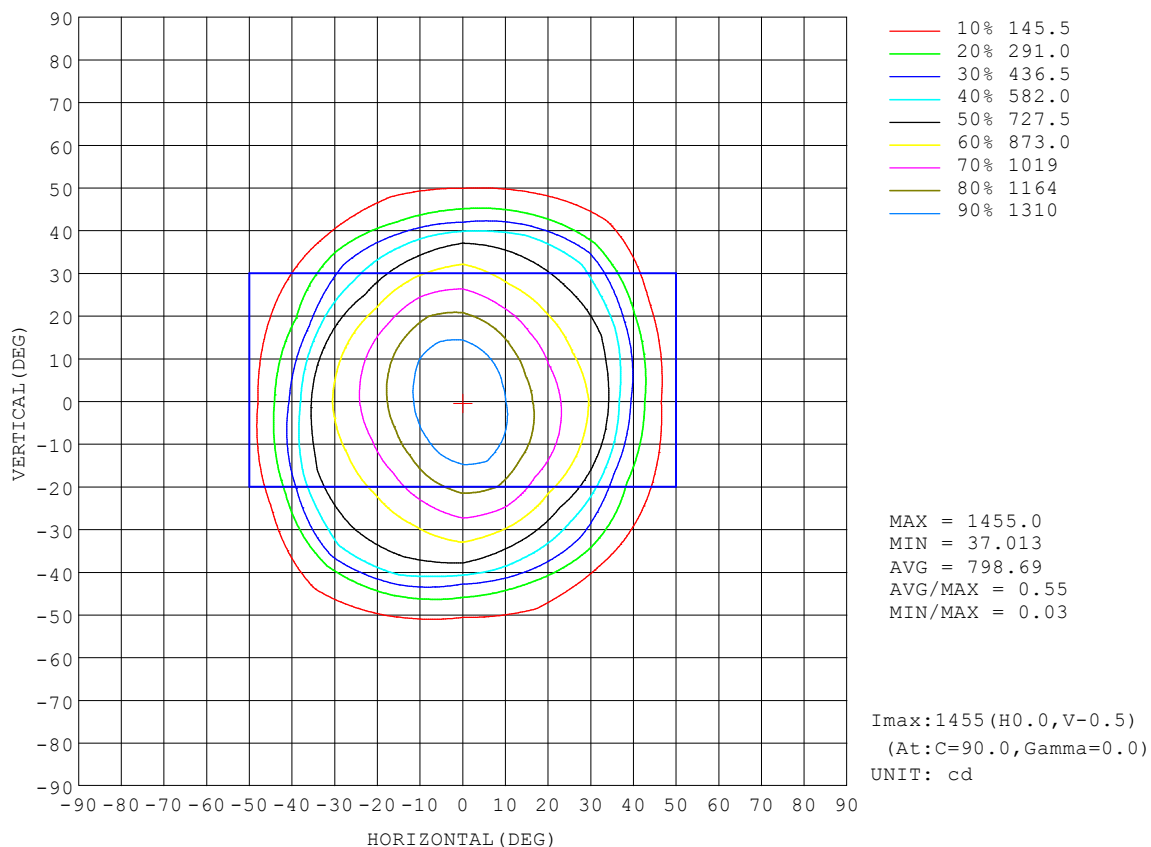
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	79	71	66	78	71	66	77	70	66	62
0.80	88	80	76	87	80	75	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:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

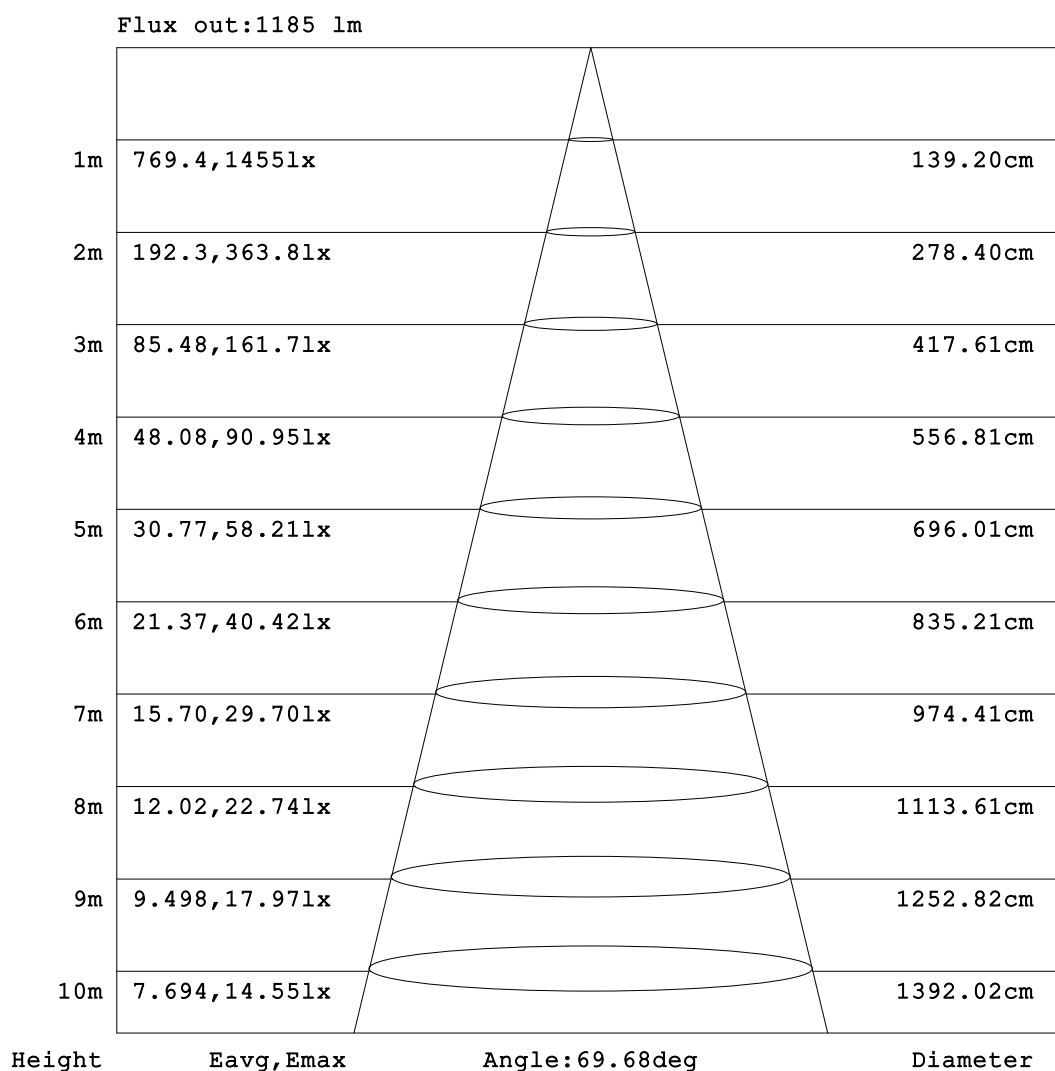


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-04-11

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:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:



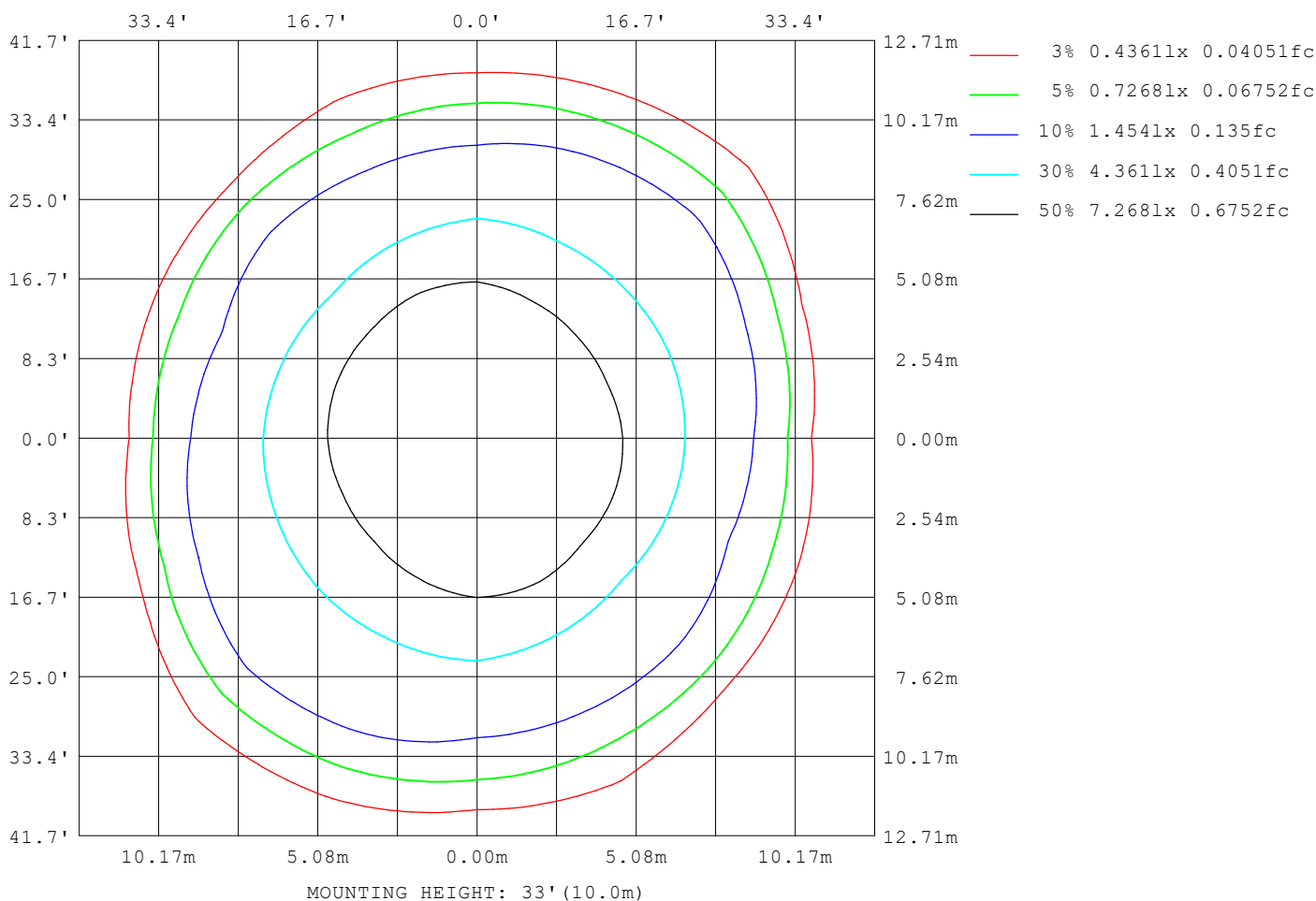
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°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:

# ISOLUX DIAGRAM

Test:U:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	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:

### LED Avg.L Report

Test:U:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm		
NAME: LED541 B34V2 (15W 4000K)	TYPE: 15W	WEIGHT:
SPEC.: 4000K	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.: 1.2*0.12	Shielding Angle:

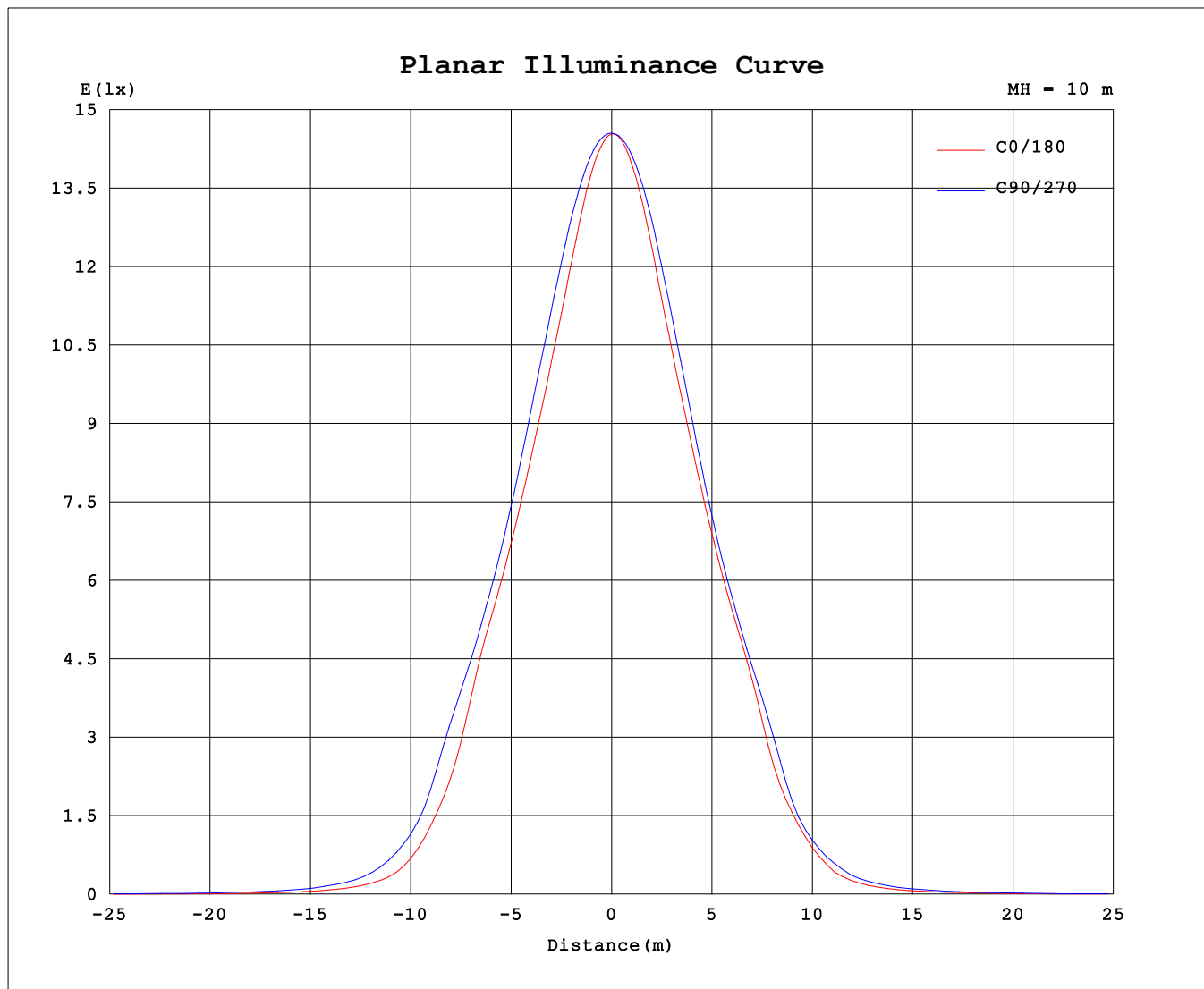
AvgL	cd/m2
L_0~180 (65) av	234
L_0~180 (75) av	158
L_0~180 (85) av	152
L_90~270 (65) av	456
L_90~270 (75) av	373
L_90~270 (85) av	430
L_45 (65) av	495
L_45 (75) av	242
L_45 (85) av	269

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:230.70V I:0.0808A P:15.536W PF:0.8336 Freq:49.99Hz</b> <b>UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1748.38x1 lm</b>		
<b>NAME: LED541 B34V2 (15W 4000K)</b>	<b>TYPE: 15W</b>	<b>WEIGHT:</b>
<b>SPEC.: 4000K</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

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:

```