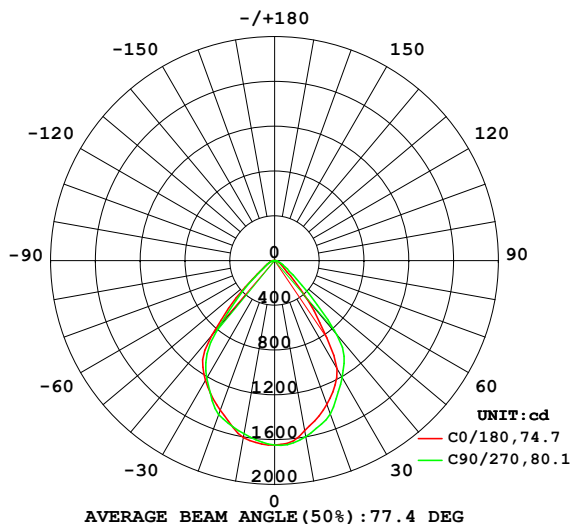


LUMINAIRE PHOTOMETRIC TEST REPORT

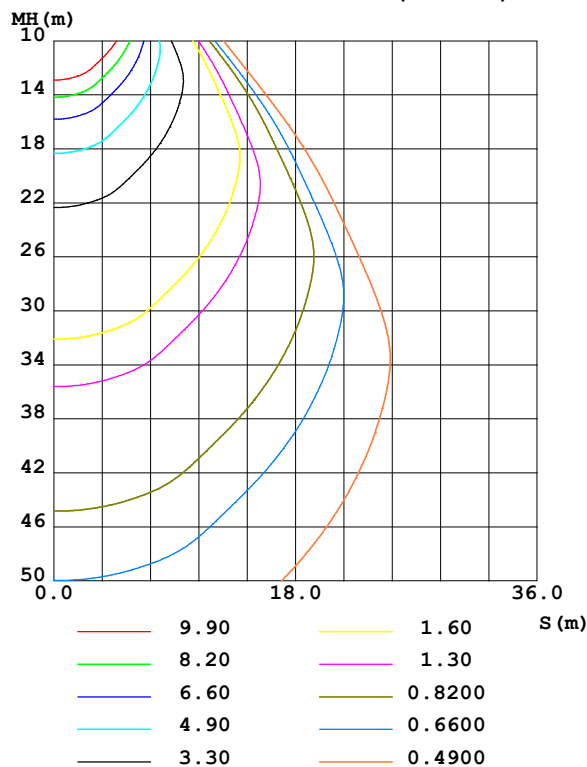
Test:U:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 116.10 lm/W			
MODEL	LED541 W34	I _{max} (cd)	1653	S/MH(C0/180)	1.13
NOMINAL POWER(W)	23	LOR(%)	100.0	S/MH(C90/270)	1.11
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	2405.3	η UP,DN(C0-180)	0.0,50.3
NOMINAL FLUX(lm)	2405.29	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.7
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	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: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2022-11-22

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1606	1558	1572	1580	1545	1557	1598	1632	0- 10	154.2	154.2	6.41,6.41
20	1421	1354	1465	1380	1368	1321	1457	1542	10- 20	423.8	578.1	24,24
30	1237	1142	1213	1073	1116	1089	1207	1271	20- 30	596.8	1175	48.8,48.8
40	872.2	1009	784.5	547.6	464.9	826.8	870.6	810.4	30- 40	616.6	1792	74.5,74.5
50	259.0	440.3	232.5	109.5	122.7	251.0	256.9	275.2	40- 50	369.5	2161	89.8,89.8
60	97.23	158.7	87.42	61.91	60.80	113.9	98.72	80.27	50- 60	134.1	2295	95.4,95.4
70	50.42	71.93	43.76	34.54	32.00	41.86	45.02	48.49	60- 70	66.84	2362	98.2,98.2
80	24.13	25.41	19.44	13.34	10.48	14.22	19.58	22.80	70- 80	32.73	2395	99.6,99.6
90	5.193	5.495	1.886	0.8373	0.5139	0.9038	0.8494	4.564	80- 90	10.62	2405	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): 2054.4 lm

%lum = 85.4%

%lamp = 85.4%

Conical surface Flux(130deg): 2340.2 lm

%lum = 97.3%

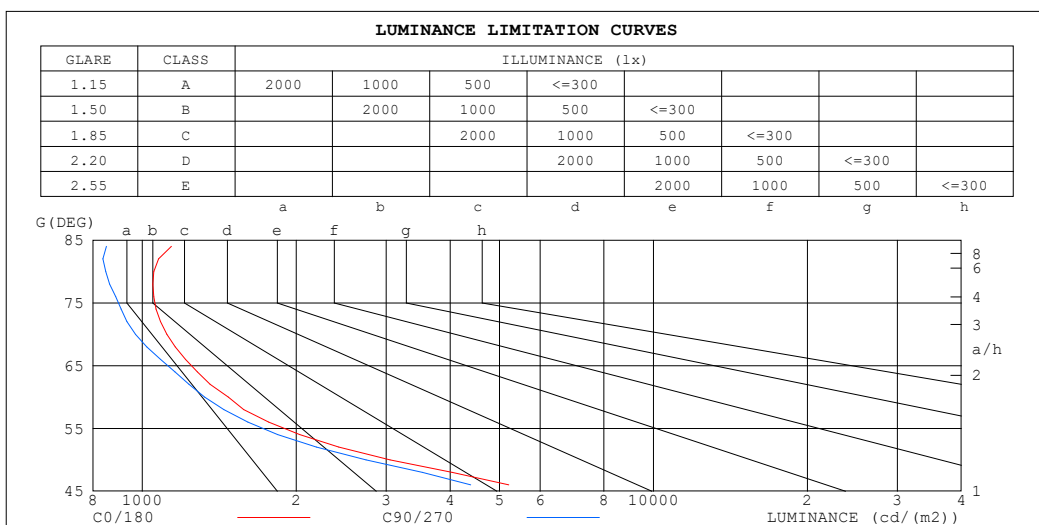
%lamp = 97.3%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2022-11-22

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	Shielding Angle:



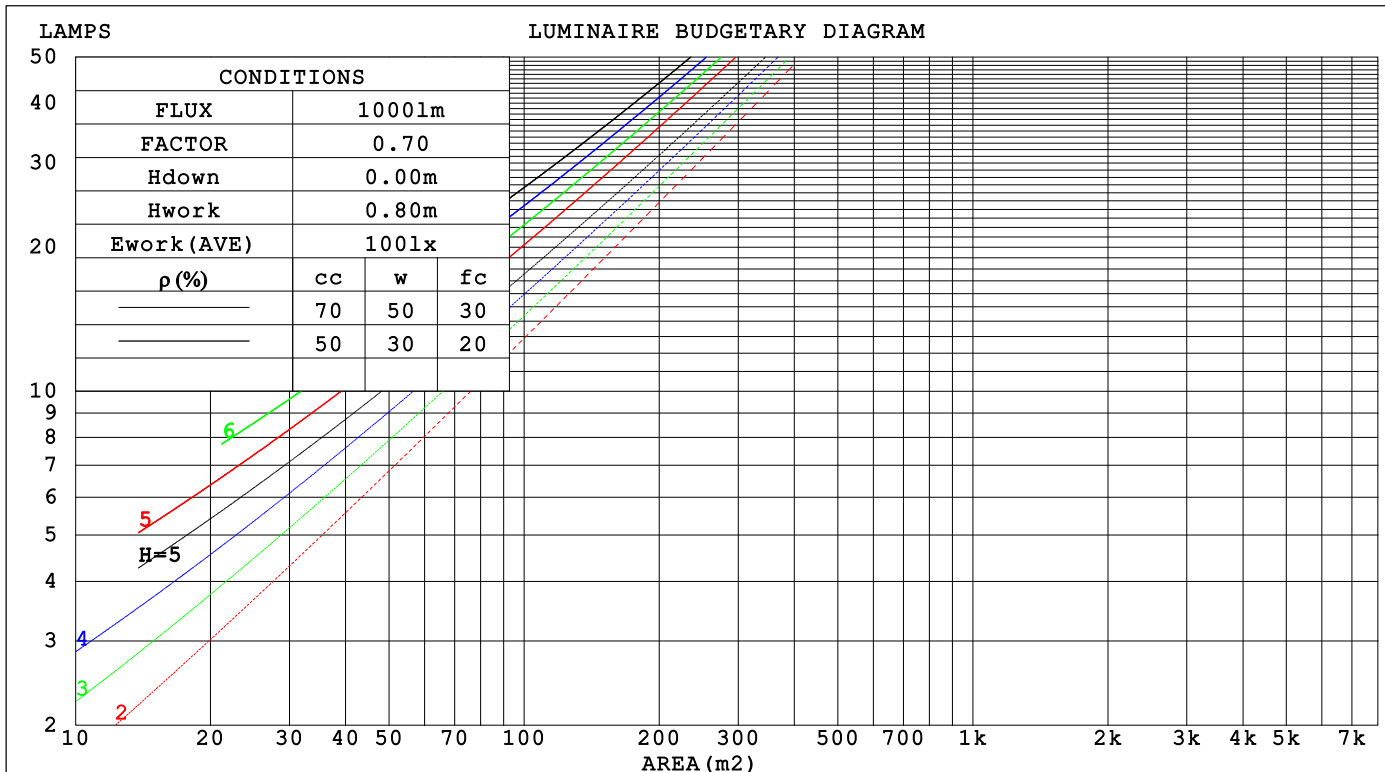
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2022-11-22

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	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	1.09	1.06	1.03	1.06	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.92	.90
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3.0	.90	.84	.79	.89	.83	.79	.86	.81	.77	.84	.79	.76	.81	.78	.75	.73
4.0	.83	.76	.71	.81	.75	.70	.79	.74	.69	.77	.72	.69	.75	.71	.68	.66
5.0	.76	.69	.64	.75	.68	.63	.73	.67	.63	.71	.66	.62	.70	.65	.62	.60
6.0	.70	.63	.58	.69	.62	.57	.67	.61	.57	.66	.61	.57	.65	.60	.56	.54
7.0	.65	.57	.52	.64	.57	.52	.63	.56	.52	.61	.56	.52	.60	.55	.51	.50
8.0	.60	.53	.48	.59	.53	.48	.58	.52	.48	.57	.52	.47	.56	.51	.47	.46
9.0	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.52	.47	.44	.42
10.0	.52	.45	.41	.52	.45	.41	.51	.45	.41	.50	.44	.40	.49	.44	.40	.39



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2022-11-22

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	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	.218	.124	.039	.212	.121	.038	.199	.114	.036	.187	.108	.035	.176	.102	.033		
2.0	.210	.115	.035	.205	.113	.035	.194	.108	.033	.183	.103	.032	.174	.098	.031		
3.0	.200	.106	.032	.195	.104	.031	.185	.101	.031	.177	.097	.030	.169	.093	.029		
4.0	.190	.099	.029	.185	.097	.029	.177	.094	.028	.169	.091	.027	.162	.088	.027		
5.0	.180	.092	.027	.176	.090	.026	.168	.088	.026	.162	.085	.025	.155	.083	.025		
6.0	.170	.085	.024	.167	.084	.024	.160	.082	.024	.154	.080	.024	.149	.078	.023		
7.0	.162	.080	.023	.159	.079	.023	.153	.077	.022	.147	.075	.022	.142	.074	.022		
8.0	.154	.075	.021	.151	.074	.021	.146	.073	.021	.141	.071	.021	.136	.070	.020		
9.0	.146	.071	.020	.144	.070	.020	.139	.069	.019	.135	.067	.019	.130	.066	.019		
10.0	.139	.067	.019	.137	.066	.018	.133	.065	.018	.129	.064	.018	.125	.063	.018		

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	.174	.157	.142	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016		
2.0	.161	.132	.108	.138	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012		
3.0	.151	.114	.084	.129	.098	.073	.089	.068	.051	.051	.040	.030	.016	.013	.010		
4.0	.142	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008		
5.0	.134	.089	.055	.115	.077	.048	.080	.054	.034	.046	.031	.020	.015	.010	.007		
6.0	.128	.080	.045	.110	.069	.040	.076	.048	.028	.044	.028	.017	.014	.009	.005		
7.0	.121	.073	.038	.104	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005		
8.0	.116	.067	.033	.100	.058	.029	.069	.041	.020	.040	.024	.012	.013	.008	.004		
9.0	.110	.062	.028	.095	.053	.025	.066	.038	.018	.038	.022	.011	.012	.007	.003		
10.0	.106	.057	.025	.091	.050	.022	.063	.035	.016	.037	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2022-11-22

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm										
NAME: LED541 W34V2					TYPE: 23W			WEIGHT:		
SPEC.: 3000K					DIM.:			SERIAL No.:		
MFR.:					SUR.: 1.2*0.11			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	16.4	17.6	16.7	17.8	18.0	16.2	17.4	16.5	17.6	17.8
3H	16.5	17.6	16.8	17.8	18.0	16.3	17.4	16.6	17.6	17.8
4H	16.5	17.5	16.8	17.8	18.0	16.3	17.3	16.6	17.5	17.8
6H	16.6	17.5	16.9	17.8	18.0	16.3	17.3	16.6	17.5	17.8
8H	16.6	17.5	16.9	17.7	18.0	16.3	17.2	16.6	17.5	17.7
12H	16.6	17.4	16.9	17.7	18.0	16.3	17.2	16.6	17.4	17.7
4H 2H	16.4	17.4	16.7	17.7	17.9	16.3	17.3	16.5	17.5	17.7
3H	16.6	17.5	16.9	17.8	18.1	16.4	17.3	16.8	17.6	17.9
4H	16.7	17.5	17.1	17.8	18.1	16.5	17.3	16.9	17.6	17.9
6H	16.8	17.5	17.2	17.9	18.2	16.6	17.3	17.0	17.6	18.0
8H	16.9	17.5	17.3	17.9	18.2	16.6	17.2	17.0	17.6	18.0
12H	16.9	17.5	17.3	17.9	18.3	16.6	17.2	17.0	17.6	18.0
8H 4H	16.7	17.3	17.1	17.7	18.1	16.5	17.1	16.9	17.5	17.9
6H	16.9	17.4	17.3	17.8	18.2	16.6	17.2	17.1	17.6	18.0
8H	17.0	17.4	17.4	17.9	18.3	16.7	17.2	17.2	17.6	18.0
12H	17.1	17.5	17.5	17.9	18.4	16.8	17.2	17.2	17.6	18.1
12H 4H	16.7	17.3	17.1	17.6	18.0	16.5	17.1	16.9	17.4	17.8
6H	16.9	17.3	17.3	17.8	18.2	16.6	17.1	17.1	17.5	18.0
8H	17.0	17.4	17.5	17.8	18.3	16.7	17.1	17.2	17.6	18.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 1.9 / - 3.0					+ 2.0 / - 3.1				
1.5H	+ 1.9 / - 2.9					+ 2.0 / - 3.2				
2.0H	+ 3.5 / - 2.5					+ 3.2 / - 2.7				

CIE Pub.117, 2405 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 3.0)
Area: 0.132 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2022-11-22

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	Shielding Angle:

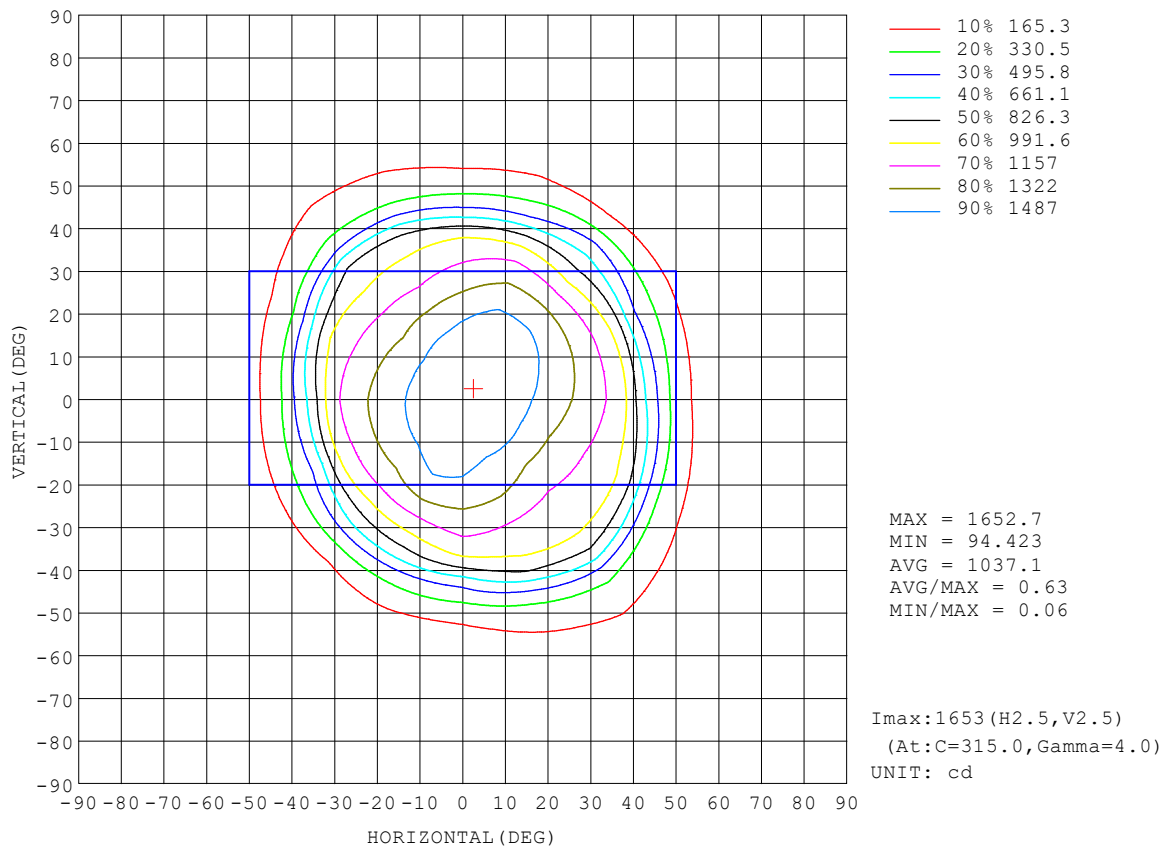
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	75	67	62	75	67	62	74	66	62	57
0.80	85	76	71	84	76	71	82	75	71	66
1.00	91	84	79	90	83	78	88	83	78	73
1.25	96	90	85	95	89	84	93	88	84	78
1.50	100	94	89	99	93	89	96	91	88	82
2.00	104	99	95	103	98	94	100	96	92	86
2.50	107	102	98	105	100	97	102	98	95	88
3.00	109	104	101	107	103	100	103	100	97	90
4.00	111	108	105	109	106	103	105	103	101	93
5.00	113	110	107	111	108	106	106	104	102	94
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: 2022-11-22

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	Shielding Angle:

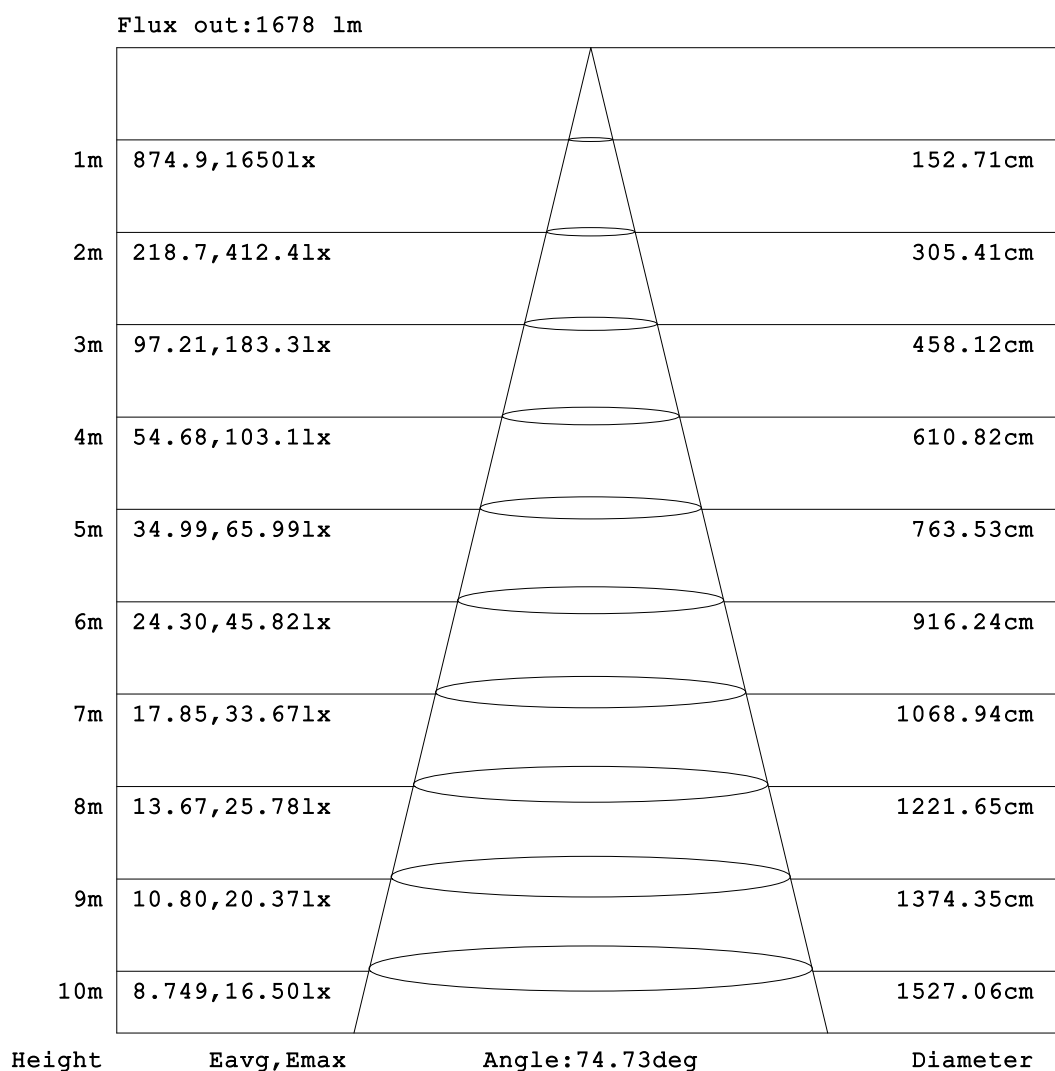


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2022-11-22

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	Shielding Angle:



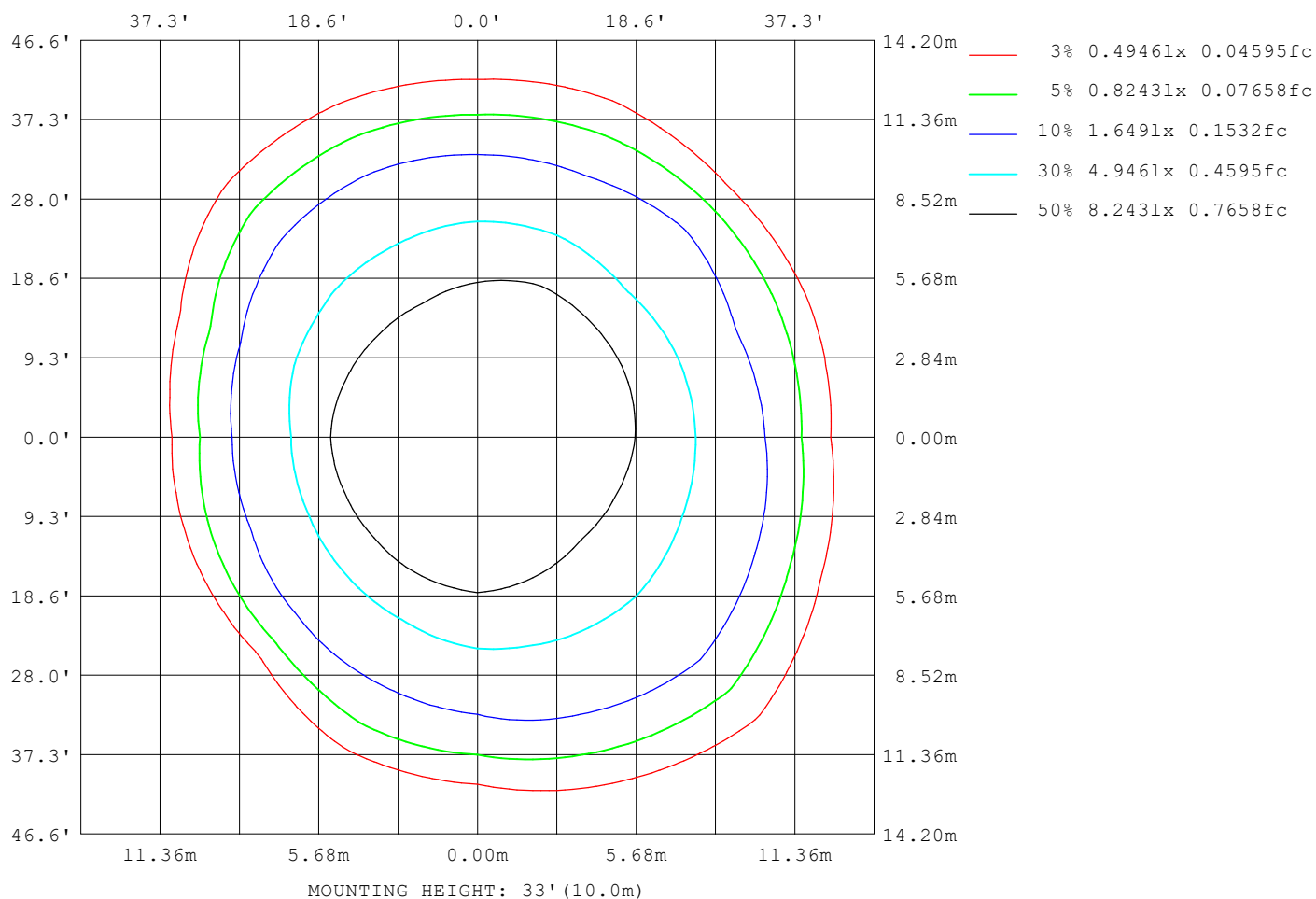
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2022-11-22

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2022-11-22

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 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:230.37V I:0.0991A P:20.717W PF:0.9074 Freq:49.99Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2405.29x1 lm		
NAME: LED541 W34V2	TYPE: 23W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 1.2*0.11	Shielding Angle:

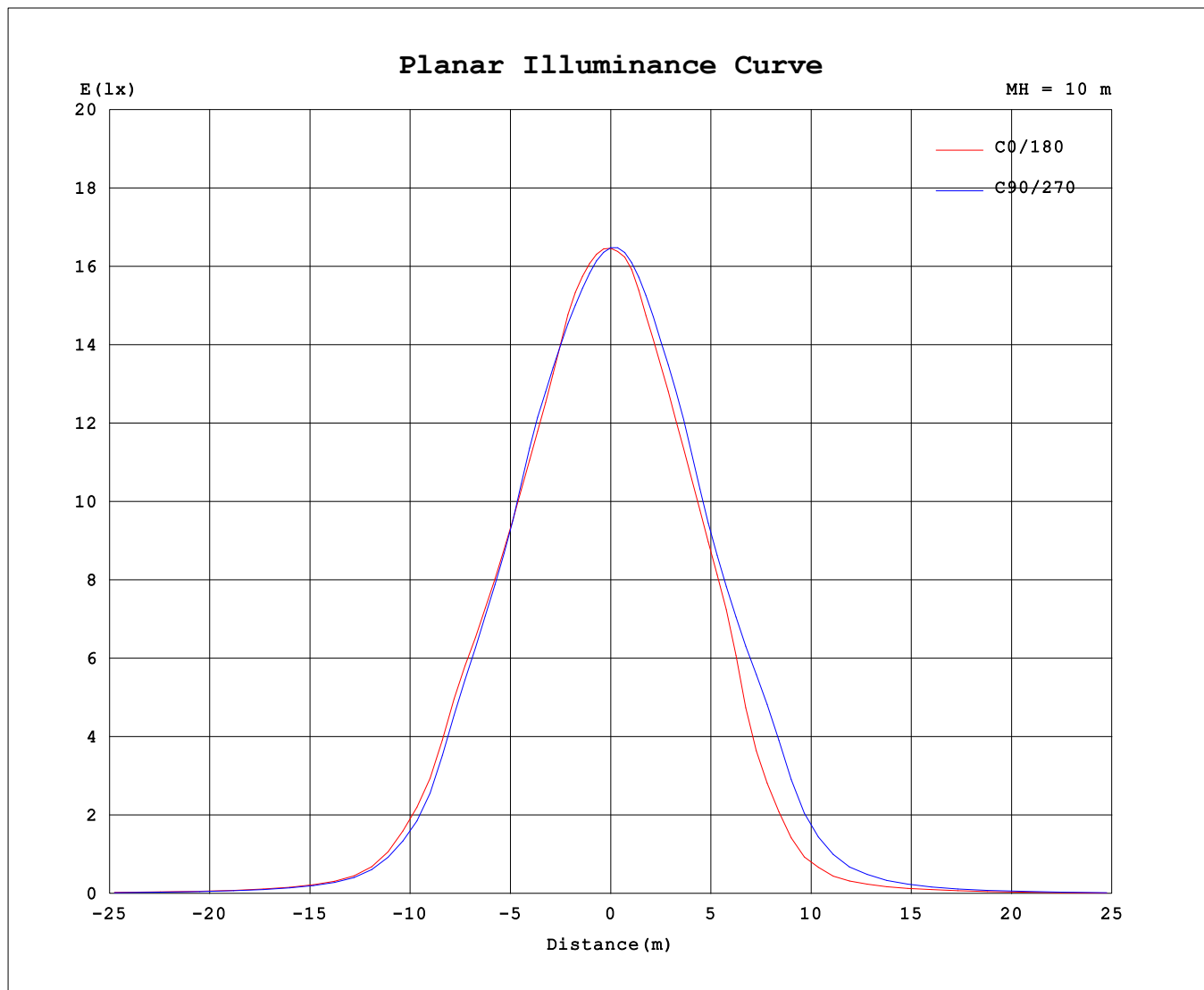
AvgL	cd/m2
L_0~180 (65) av	1025
L_0~180 (75) av	829
L_0~180 (85) av	706
L_90~270 (65) av	1152
L_90~270 (75) av	904
L_90~270 (85) av	863
L_45 (65) av	1313
L_45 (75) av	913
L_45 (85) av	805

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:DAMIN
Test Date:2022-11-22

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
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: 2022-11-22

γ Range: 0 - 90DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 9.640m [K=1.0000]
 Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000H_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:9.640m [K=1.0000]
Remarks:

```