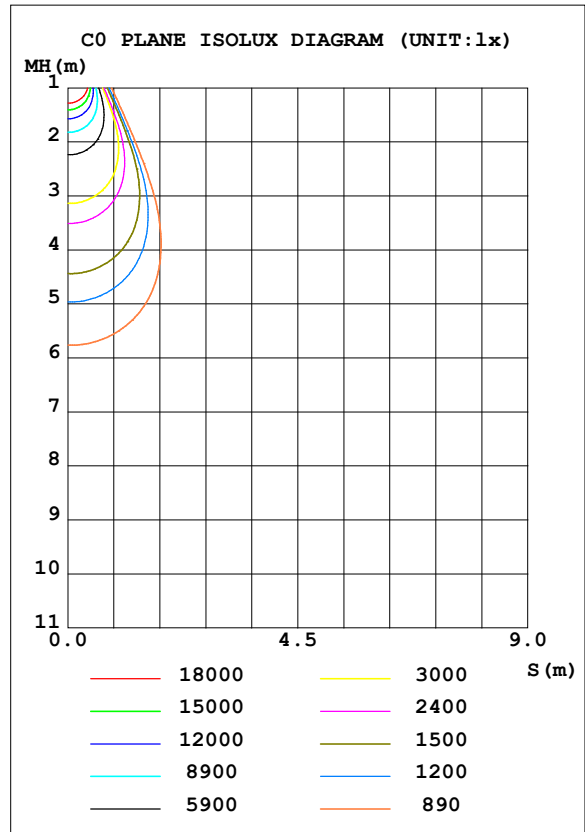
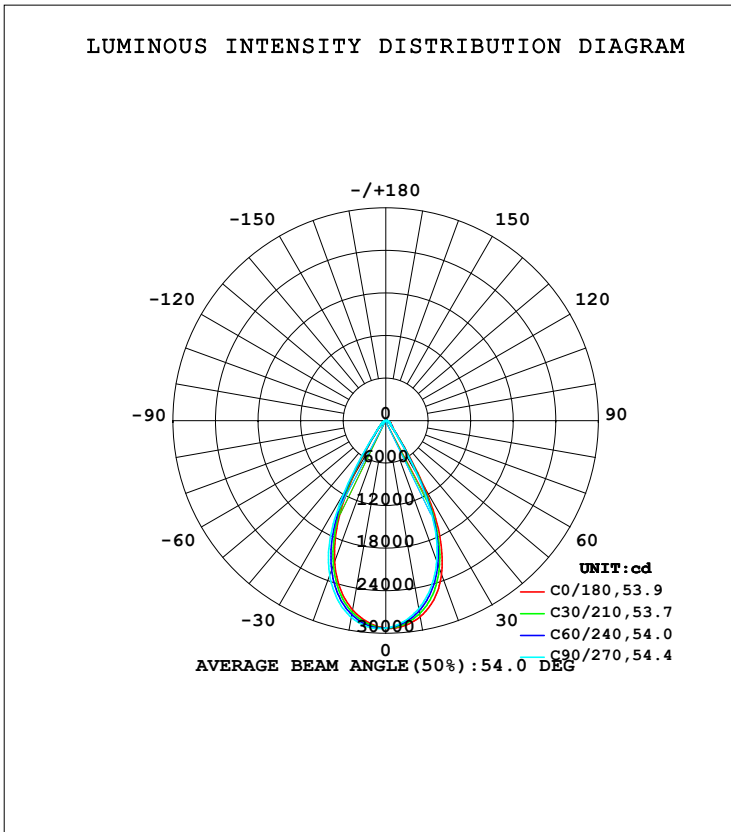


EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.4V I:0.6550A P:149.2W PF:0.9881 Freq:50.04Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:22704.3x1 lm		
NAME: FL23-150-5070-F19202	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 152.22 lm/W			
MODEL	/	I _{max} (cd)	29379	S/MH (C0/180)	0.79
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.83
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	22704	η UP, DN (C0-180)	0.0, 48.2
NOMINAL FLUX (lm)	22704.3	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 51.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.85



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: WJH
Test Date: 2022-05-18

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 9.350m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2806	2743	2689	2675	2708	2756	2815	2831	0- 10	2710	2710	11.9,11.9
20	2303	2183	2108	2061	2112	2191	2317	2335	10- 20	7044	9754	43,43
30	1103	988.0	915.8	919.3	951.7	1060	1197	1189	20- 30	7630	17384	76.6,76.6
40	216.2	197.6	192.5	192.7	205.7	223.0	236.0	229.6	30- 40	3074	20458	90.1,90.1
50	94.72	85.87	85.05	85.13	90.78	90.06	95.75	94.71	40- 50	1042	21500	94.7,94.7
60	64.24	51.95	57.72	50.87	60.06	50.89	61.97	53.96	50- 60	608.9	22109	97.4,97.4
70	32.30	25.54	27.51	24.80	30.64	26.27	30.75	27.61	60- 70	392.8	22502	99.1,99.1
80	9.050	7.044	6.920	6.786	8.594	7.777	8.620	8.111	70- 80	175.3	22677	99.9,99.9
90	0.2757	0.2701	0.2685	0.2750	0.2679	0.2628	0.3052	0.2739	80- 90	27.09	22704	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:X10cd									UNIT:lm		

Conical surface Flux(90deg): 21066 lm

%lum = 92.8%

%lamp = 92.8%

Conical surface Flux(120deg): 22109 lm

%lum = 97.4%

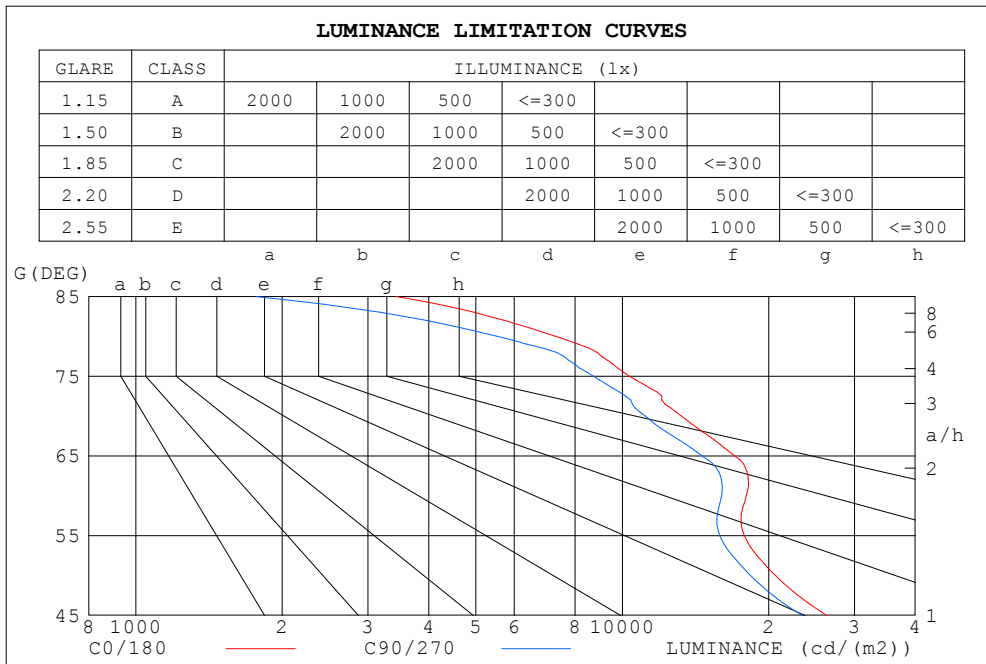
%lamp = 97.4%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WJH
 Test Date:2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3432	1767
80	7296	5523
75	10349	8731
70	13220	11146
65	17034	14596
60	17987	15997
55	17815	15862
50	20631	18335
45	26327	23459

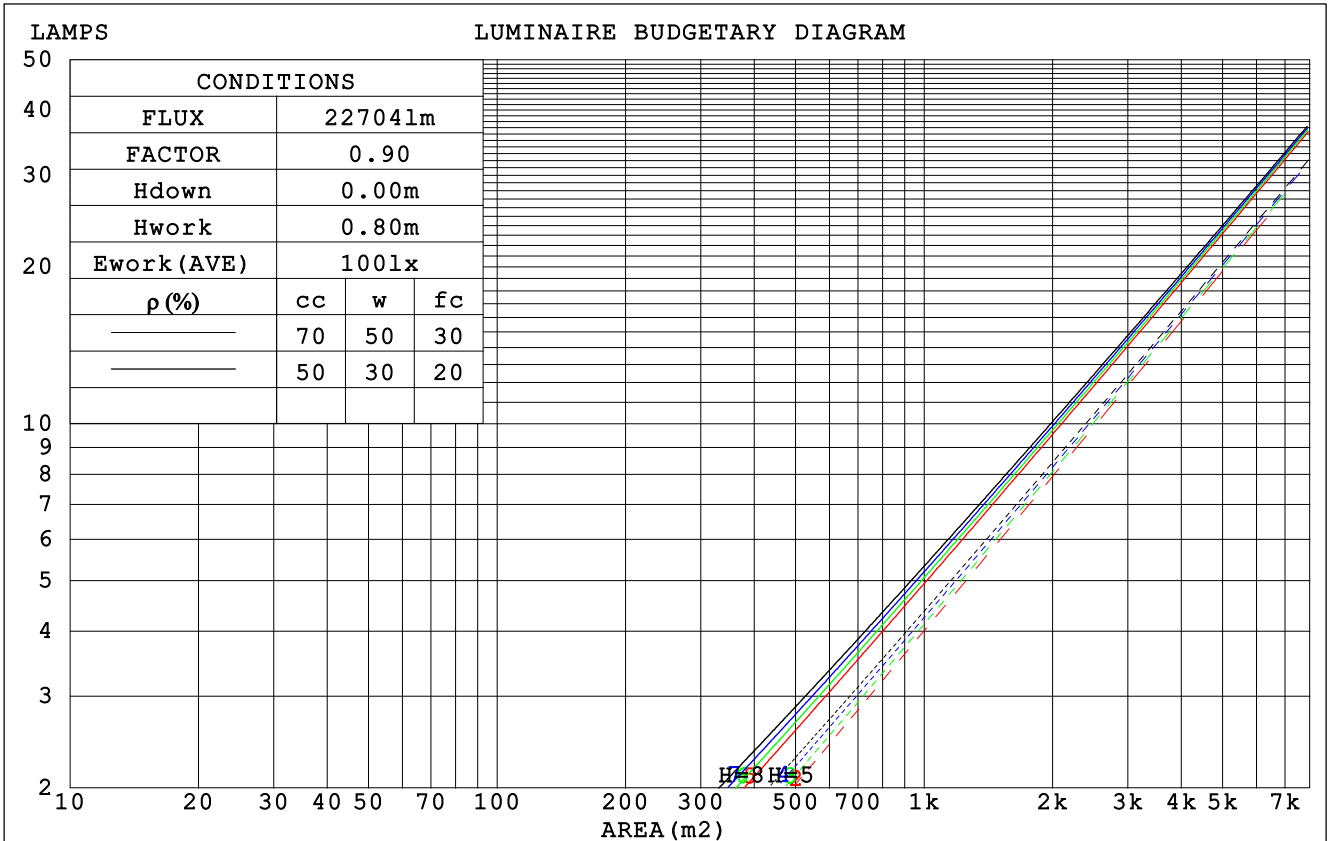
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WJH
 Test Date: 2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	1.11	1.08	1.06	1.08	1.06	1.04	1.04	1.03	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.03	.99	.95	1.01	.97	.94	.98	.95	.92	.95	.92	.90	.92	.90	.88	.87
3.0	.96	.91	.87	.94	.90	.86	.92	.88	.85	.89	.86	.83	.87	.85	.82	.81
4.0	.90	.84	.80	.89	.83	.80	.86	.82	.79	.84	.81	.78	.83	.79	.77	.75
5.0	.84	.78	.74	.83	.78	.74	.82	.77	.73	.80	.76	.73	.78	.75	.72	.70
6.0	.79	.73	.69	.79	.73	.69	.77	.72	.69	.76	.71	.68	.74	.71	.68	.66
7.0	.75	.69	.65	.74	.69	.65	.73	.68	.64	.72	.67	.64	.71	.67	.64	.62
8.0	.71	.65	.61	.70	.65	.61	.69	.64	.61	.68	.64	.60	.67	.63	.60	.59
9.0	.67	.61	.58	.67	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.57	.56
10.0	.64	.58	.54	.63	.58	.54	.63	.58	.54	.62	.57	.54	.61	.57	.54	.53



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WJH
 Test Date: 2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.182	.104	.033	.175	.100	.032	.163	.093	.030	.151	.087	.028	.140	.081	.026	
2.0	.173	.095	.029	.168	.092	.028	.157	.087	.027	.147	.083	.026	.138	.078	.025	
3.0	.164	.087	.026	.159	.085	.026	.150	.081	.025	.142	.078	.024	.134	.074	.023	
4.0	.155	.081	.024	.151	.079	.023	.143	.076	.023	.136	.073	.022	.129	.070	.021	
5.0	.147	.075	.022	.144	.074	.021	.137	.071	.021	.131	.069	.020	.125	.067	.020	
6.0	.140	.070	.020	.137	.069	.020	.131	.067	.020	.125	.065	.019	.120	.063	.019	
7.0	.133	.066	.019	.130	.065	.019	.125	.063	.018	.120	.062	.018	.116	.060	.018	
8.0	.127	.062	.017	.125	.061	.017	.120	.060	.017	.116	.059	.017	.111	.057	.017	
9.0	.122	.059	.016	.119	.058	.016	.115	.057	.016	.111	.056	.016	.107	.055	.016	
10.0	.116	.056	.016	.114	.055	.015	.111	.054	.015	.107	.053	.015	.104	.052	.015	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	.171	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.156	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.134	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.125	.087	.060	.107	.076	.052	.074	.053	.037	.043	.031	.022	.014	.010	.007	
6.0	.117	.078	.050	.101	.068	.043	.070	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.111	.070	.042	.095	.061	.037	.066	.043	.026	.038	.025	.015	.012	.008	.005	
8.0	.105	.064	.036	.090	.056	.032	.062	.039	.022	.036	.023	.013	.012	.008	.004	
9.0	.100	.059	.031	.086	.051	.027	.059	.036	.019	.035	.021	.012	.011	.007	.004	
10.0	.095	.054	.028	.082	.047	.024	.057	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WJH
 Test Date:2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UGR(Unified Glare Rating) Table

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	16.1	17.1	16.4	17.4	17.7	15.4	16.4	15.8	16.8	17.1
3H	17.4	18.3	17.8	18.6	19.0	16.7	17.6	17.1	17.9	18.3
4H	17.8	18.6	18.2	19.0	19.4	17.1	17.9	17.5	18.2	18.6
6H	18.0	18.8	18.4	19.1	19.5	17.2	18.0	17.6	18.3	18.7
8H	18.0	18.7	18.4	19.1	19.5	17.2	17.9	17.6	18.3	18.7
12H	18.0	18.7	18.4	19.1	19.5	17.2	17.8	17.6	18.2	18.7
4H 2H	16.5	17.3	16.9	17.7	18.0	15.9	16.7	16.3	17.1	17.5
3H	17.9	18.6	18.3	19.0	19.4	17.3	18.0	17.7	18.4	18.8
4H	18.4	19.0	18.8	19.4	19.9	17.7	18.3	18.1	18.7	19.2
6H	18.6	19.2	19.1	19.6	20.1	17.9	18.4	18.4	18.9	19.4
8H	18.7	19.2	19.1	19.6	20.1	17.9	18.4	18.4	18.8	19.3
12H	18.6	19.1	19.1	19.6	20.0	17.9	18.3	18.3	18.8	19.2
8H 4H	18.4	18.9	18.9	19.4	19.8	17.8	18.3	18.3	18.7	19.2
6H	18.7	19.1	19.2	19.6	20.1	18.0	18.4	18.5	18.9	19.4
8H	18.8	19.1	19.3	19.6	20.1	18.0	18.4	18.6	18.9	19.4
12H	18.8	19.1	19.3	19.6	20.2	18.0	18.3	18.5	18.8	19.4
12H 4H	18.4	18.8	18.9	19.3	19.8	17.7	18.2	18.2	18.7	19.1
6H	18.7	19.0	19.2	19.5	20.1	18.0	18.3	18.5	18.8	19.4
8H	18.8	19.1	19.3	19.6	20.1	18.0	18.3	18.5	18.8	19.4
CIE190: 2010										

CIE190: 2010
Area: 0.0721 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WJH
Test Date:2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:9.350m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

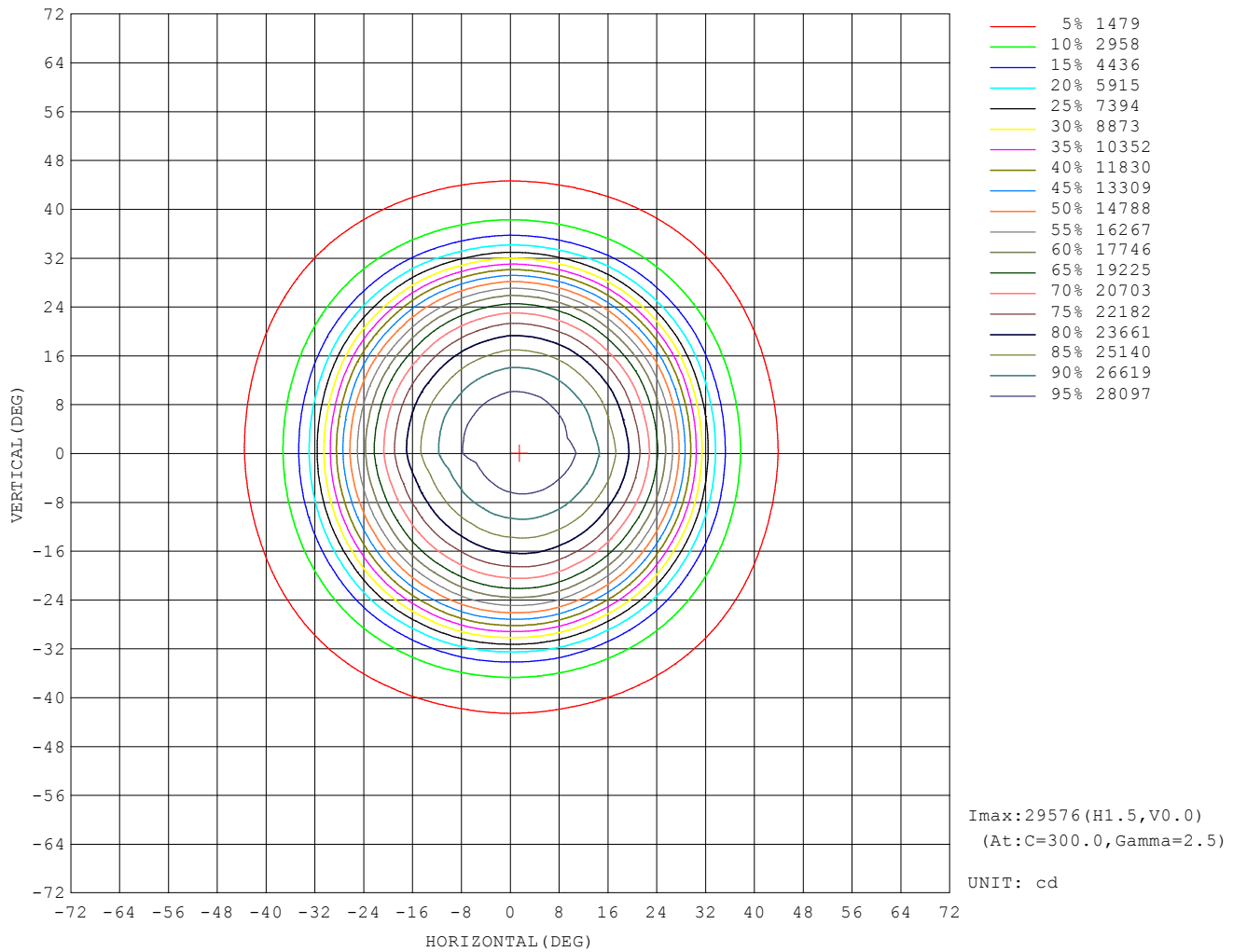
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	79	75	85	79	75	84	78	74	71
0.80	93	87	83	92	86	83	91	86	82	78
1.00	98	92	88	97	91	88	95	91	87	83
1.25	102	96	93	101	96	92	99	95	91	87
1.50	105	100	96	103	99	96	101	97	94	90
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	108	105	109	106	104	106	103	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	113	110	109	109	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WJH
 Test Date: 2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

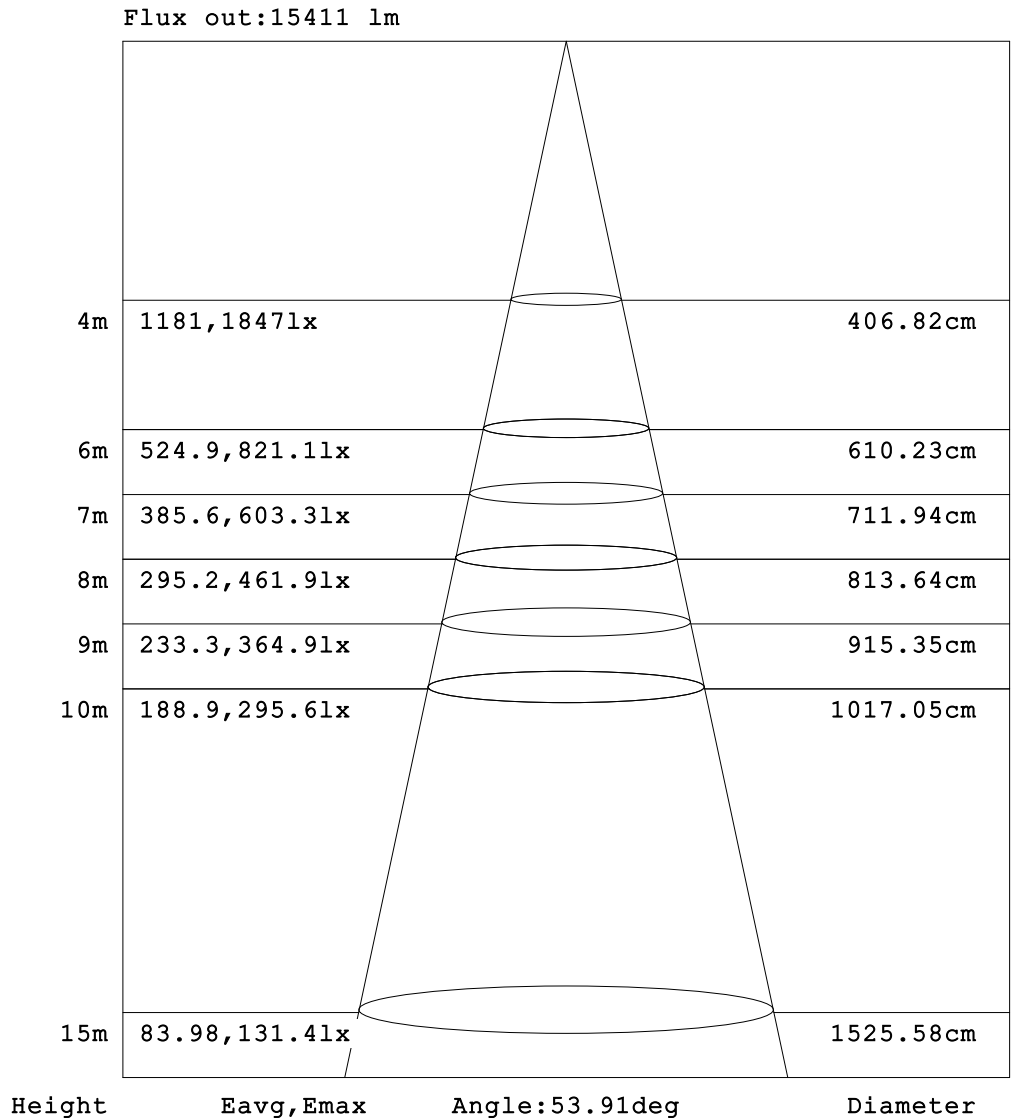
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: WJH
 Test Date: 2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

AAI Figure



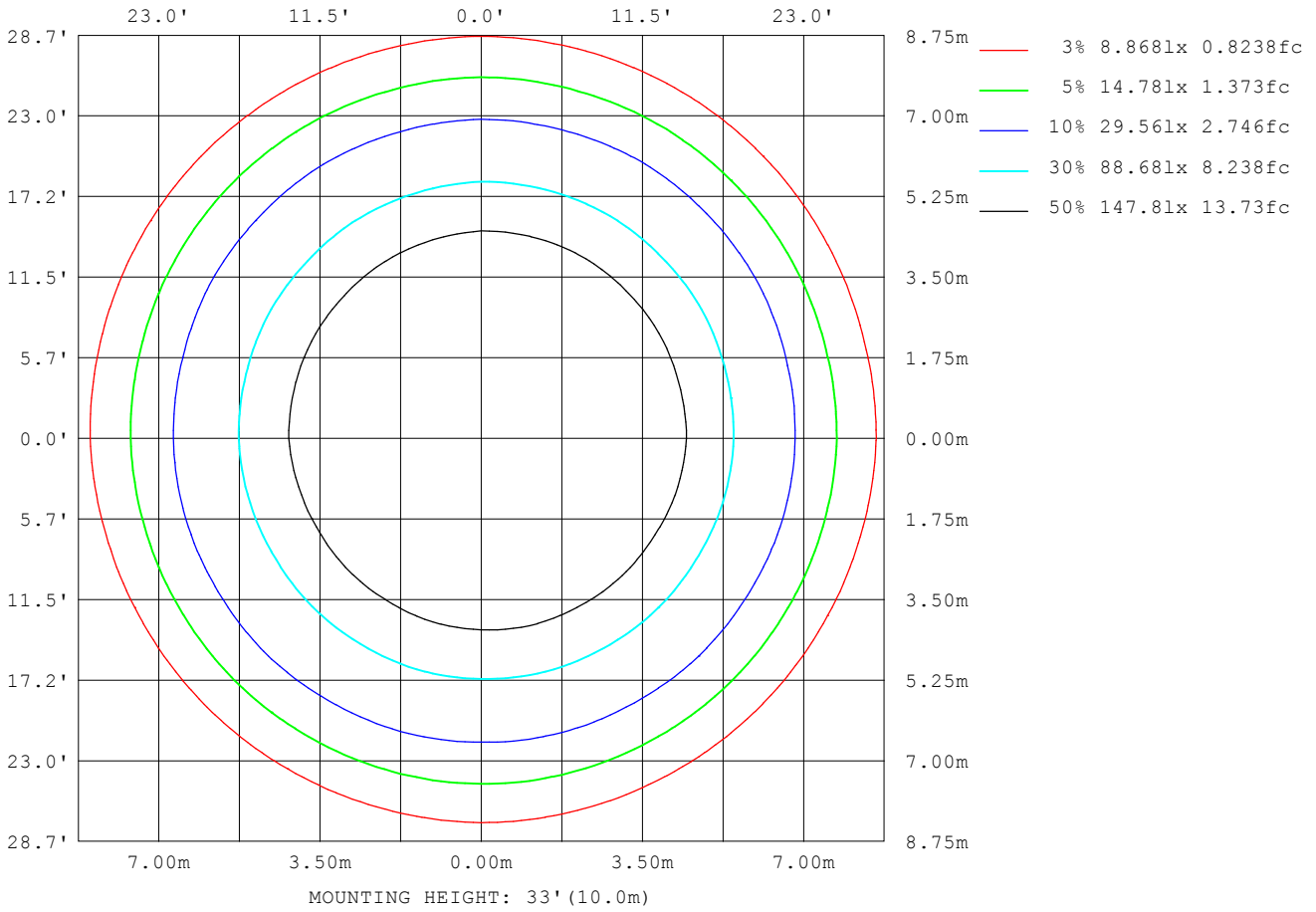
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:WJH
 Test Date:2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

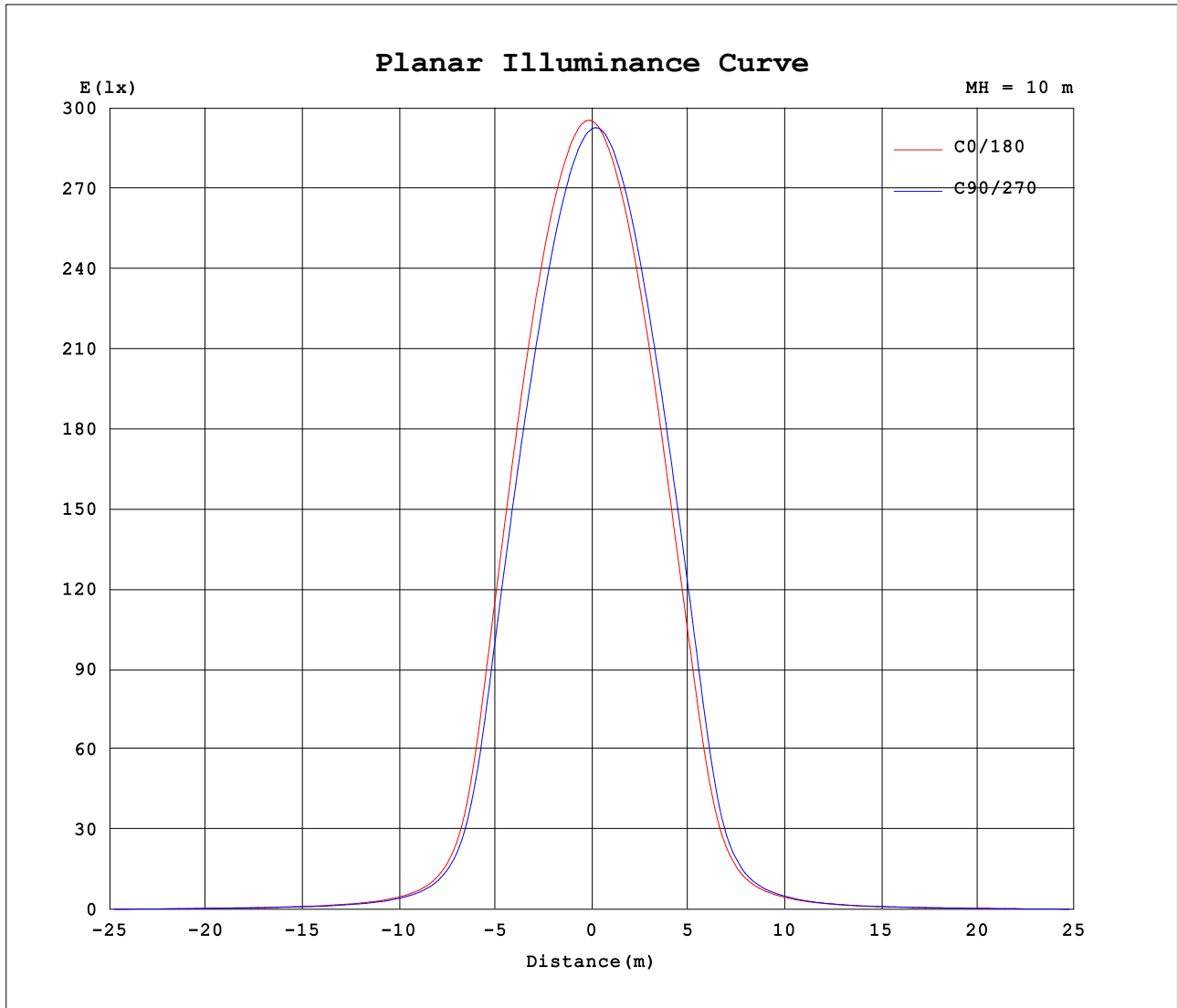
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: WJH
Test Date: 2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 9.350m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: WJH
Test Date: 2022-05-18

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 9.350m [K=1.0000]
Remarks: