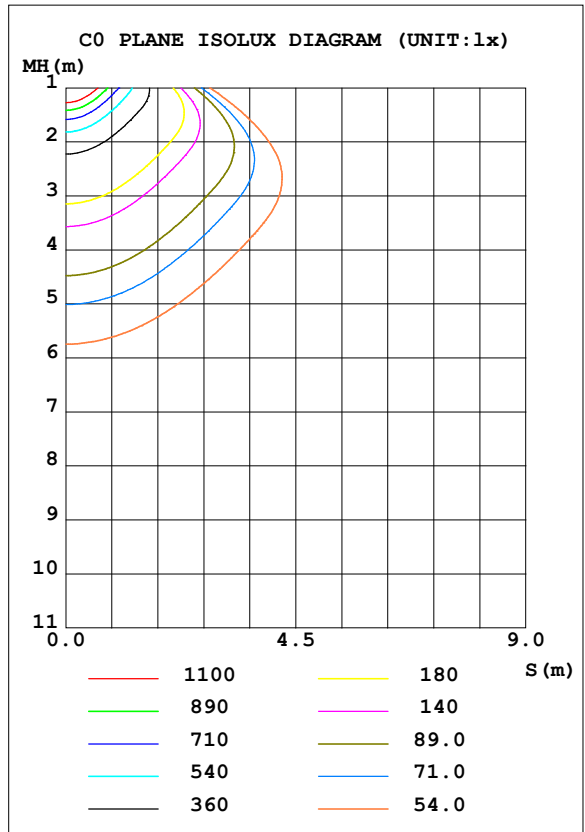
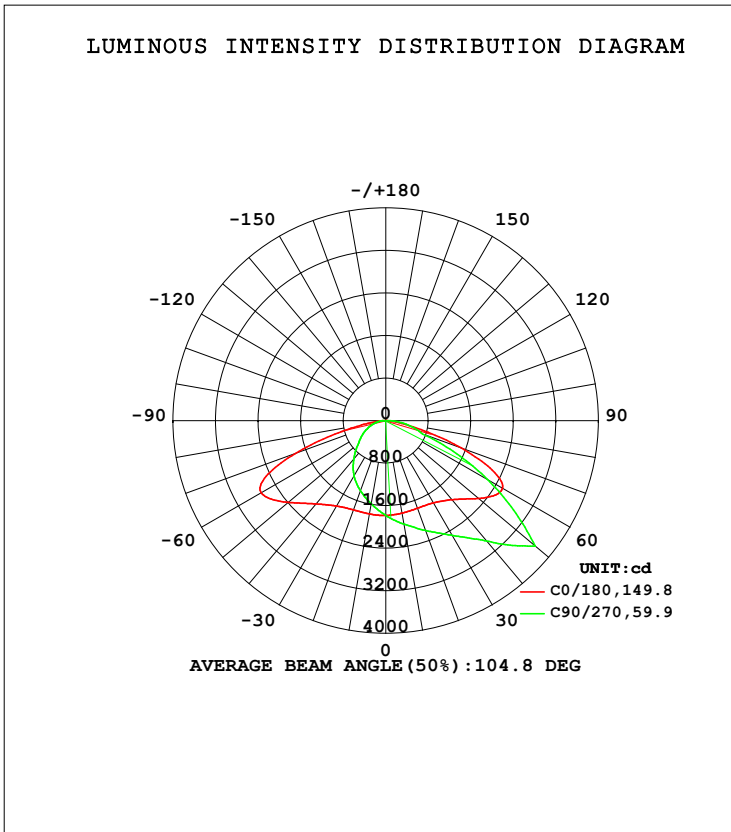


EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.1V I:0.3137A P:70.5W PF:0.9759 Freq:49.99Hz Lamp Flux:8827.51x1 lm		
NAME: WP01-070-5770-R08401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 125.30 lm/W			
MODEL	3030	I <sub>max</sub> (cd)	4438	S/MH (C0/180)	1.74
NOMINAL POWER (W)	70	LOR (%)	100.0	S/MH (C90/270)	1.02
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	8827.5	η UP, DN (C0-180)	0.0, 70.6
NOMINAL FLUX (lm)	8827.51	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 29.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.75
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.75



H(β) Range: -90 - 90DEG  
 H(β) Interval: 1.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: WJH  
 Test Date: 2020-11-24

V(B) Range: -90 - 90DEG  
 V(B) Interval: 2.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
 Humidity: 65.0%  
 Test Distance: 9.350m [K=1.0000]  
 Remarks:

Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1767	1909	1976	1919	1782	1648	1590	1636	0- 10	170.0	170.0	1.93,1.93
20	1753	2049	2201	2053	1786	1515	1403	1484	10- 20	503.8	673.8	7.63,7.63
30	1789	2329	2490	2300	1856	1379	1198	1326	20- 30	834.0	1508	17.1,17.1
40	1942	2943	2953	2870	2046	1197	938.4	1120	30- 40	1198	2706	30.6,30.6
50	2278	3903	3669	3890	2392	927.1	670.3	842.3	40- 50	1674	4380	49.6,49.6
60	2537	4192	2204	4319	2710	643.3	494.0	573.0	50- 60	2061	6441	73,73
70	1511	1819	738.9	2160	1814	416.8	316.3	352.4	60- 70	1612	8053	91.2,91.2
80	274.1	332.3	373.9	520.7	415.4	186.4	164.3	154.1	70- 80	624.9	8678	98.3,98.3
90	7.504	7.052	4.991	4.825	4.308	11.99	12.06	12.98	80- 90	149.6	8828	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): 3474.1 lm

%lum = 39.4%

%lamp = 39.4%

Conical surface Flux(120deg): 6441.2 lm

%lum = 73.0%

%lamp = 73.0%

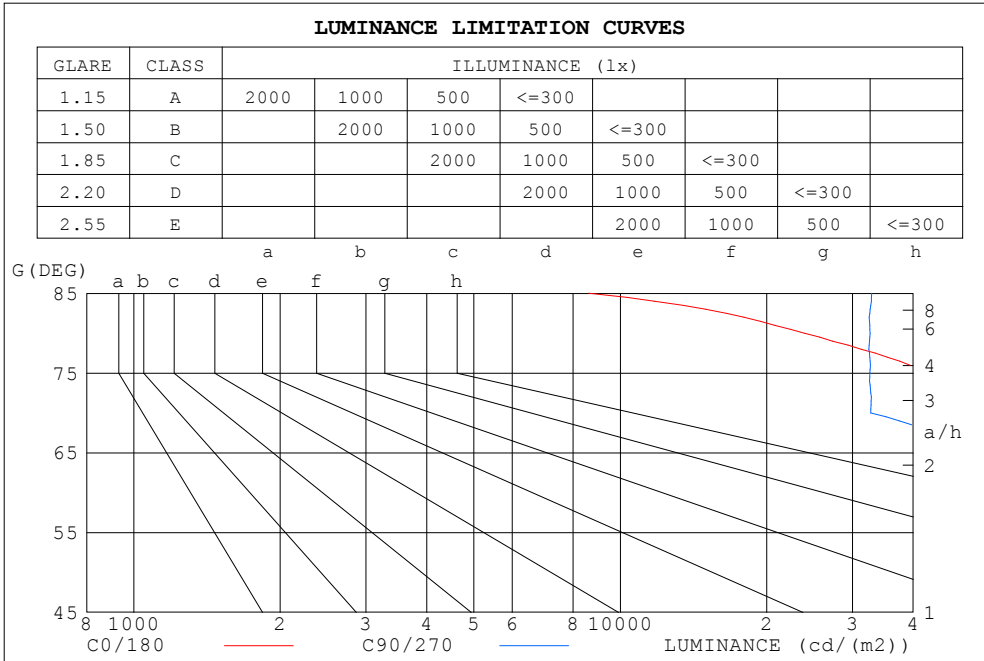
H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-11-24

V(B) Range:-90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8616	32865
80	23918	32626
75	44006	32596
70	66944	32732
65	79463	52778
60	76872	66782
55	65185	77542
50	53699	86475
45	44690	70939

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-11-24

V(B) Range:-90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

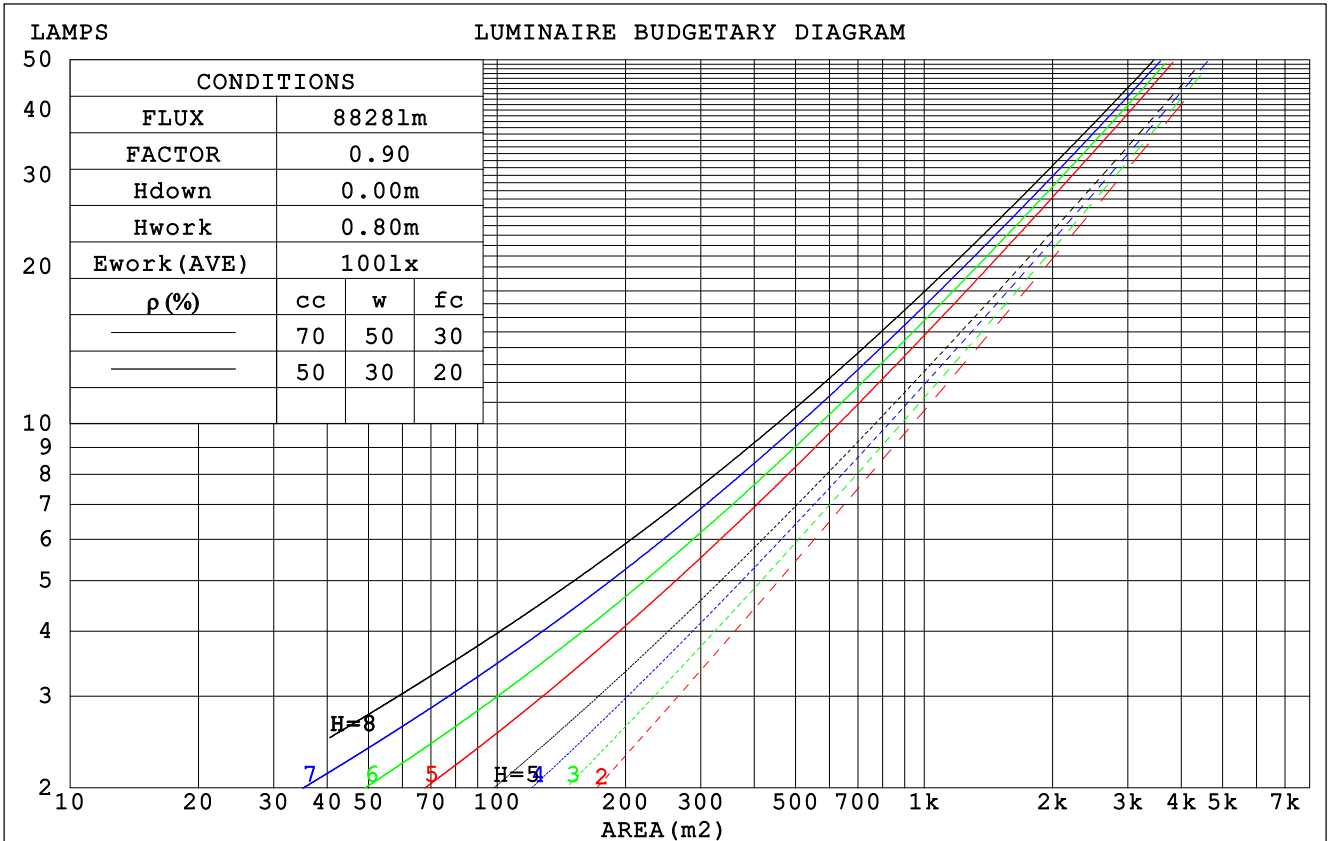
Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.02	.98	.94	1.00	.96	.92	.96	.92	.89	.92	.89	.86	.88	.86	.84	.82
2.0	.87	.80	.74	.86	.79	.73	.82	.76	.71	.79	.74	.69	.75	.71	.68	.65
3.0	.75	.66	.59	.73	.65	.58	.70	.63	.57	.67	.61	.56	.65	.60	.55	.53
4.0	.65	.55	.48	.64	.55	.48	.61	.53	.47	.59	.52	.46	.56	.50	.45	.43
5.0	.57	.47	.40	.56	.47	.40	.54	.45	.39	.52	.44	.39	.50	.43	.38	.36
6.0	.50	.41	.34	.49	.40	.33	.48	.39	.33	.46	.38	.33	.44	.38	.32	.30
7.0	.45	.35	.29	.44	.35	.29	.43	.34	.28	.41	.34	.28	.40	.33	.28	.26
8.0	.41	.31	.25	.40	.31	.25	.38	.30	.25	.37	.30	.25	.36	.29	.24	.22
9.0	.37	.28	.22	.36	.28	.22	.35	.27	.22	.34	.27	.22	.33	.26	.21	.19
10.0	.34	.25	.20	.33	.25	.19	.32	.25	.19	.31	.24	.19	.30	.24	.19	.17



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-11-24

V(B) Range:-90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.336	.191	.061	.329	.188	.060	.316	.181	.058	.303	.175	.056	.292	.169	.055	
2.0	.320	.176	.054	.314	.173	.053	.302	.168	.052	.291	.163	.051	.281	.159	.050	
3.0	.297	.158	.047	.292	.156	.047	.281	.152	.046	.271	.149	.046	.262	.145	.045	
4.0	.274	.142	.042	.269	.141	.042	.260	.138	.041	.251	.135	.041	.242	.132	.040	
5.0	.252	.129	.037	.248	.127	.037	.239	.125	.037	.232	.122	.036	.224	.120	.036	
6.0	.233	.117	.033	.229	.116	.033	.221	.113	.033	.214	.111	.033	.208	.109	.032	
7.0	.216	.107	.030	.212	.106	.030	.205	.104	.030	.199	.102	.030	.193	.100	.029	
8.0	.201	.098	.028	.197	.097	.027	.191	.096	.027	.186	.094	.027	.180	.092	.027	
9.0	.187	.090	.025	.184	.090	.025	.179	.088	.025	.174	.087	.025	.169	.086	.025	
10.0	.175	.084	.023	.172	.083	.023	.168	.082	.023	.163	.081	.023	.158	.080	.023	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.182	.156	.132	.156	.134	.114	.107	.092	.079	.061	.053	.046	.020	.017	.015	
2.0	.176	.132	.095	.151	.113	.082	.103	.078	.057	.060	.046	.033	.019	.015	.011	
3.0	.170	.114	.070	.146	.099	.061	.100	.069	.043	.058	.040	.025	.019	.013	.008	
4.0	.163	.102	.055	.140	.088	.047	.096	.061	.033	.056	.036	.020	.018	.012	.006	
5.0	.156	.091	.044	.134	.079	.038	.092	.055	.027	.053	.032	.016	.017	.011	.005	
6.0	.149	.083	.036	.128	.072	.032	.088	.051	.022	.051	.030	.013	.017	.010	.004	
7.0	.142	.077	.031	.122	.066	.027	.084	.047	.019	.049	.027	.011	.016	.009	.004	
8.0	.135	.071	.027	.116	.061	.023	.080	.043	.017	.047	.025	.010	.015	.008	.003	
9.0	.129	.066	.024	.111	.057	.021	.077	.040	.015	.045	.024	.009	.014	.008	.003	
10.0	.123	.062	.021	.106	.054	.018	.073	.038	.013	.043	.022	.008	.014	.007	.003	

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-11-24

V(B) Range:-90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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**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	31.5	33.3	31.9	33.7	34.0	29.8	31.6	30.1	31.9	32.2
3H	32.5	34.1	32.9	34.5	34.8	30.6	32.2	30.9	32.5	32.9
4H	32.6	34.1	33.0	34.5	34.9	30.8	32.3	31.2	32.7	33.0
6H	32.6	34.0	33.0	34.4	34.8	31.0	32.4	31.4	32.8	33.2
8H	32.6	34.0	33.0	34.3	34.7	31.1	32.5	31.5	32.8	33.2
12H	32.6	33.9	33.0	34.3	34.7	31.1	32.5	31.6	32.8	33.3
4H 2H	32.3	33.9	32.7	34.2	34.6	31.3	32.8	31.7	33.2	33.5
3H	33.4	34.7	33.8	35.1	35.5	32.3	33.6	32.7	34.0	34.4
4H	33.5	34.7	33.9	35.1	35.5	32.7	33.9	33.1	34.3	34.7
6H	33.5	34.5	33.9	35.0	35.4	33.0	34.1	33.5	34.5	34.9
8H	33.5	34.4	33.9	34.9	35.3	33.1	34.1	33.6	34.5	35.0
12H	33.5	34.3	33.9	34.8	35.3	33.2	34.1	33.7	34.6	35.0
8H 4H	33.6	34.5	34.0	35.0	35.4	33.1	34.0	33.5	34.5	34.9
6H	33.6	34.4	34.1	34.9	35.3	33.6	34.4	34.1	34.9	35.4
8H	33.6	34.3	34.1	34.8	35.3	33.9	34.6	34.4	35.1	35.6
12H	33.6	34.2	34.1	34.7	35.2	34.0	34.7	34.5	35.1	35.7
12H 4H	33.6	34.5	34.1	34.9	35.4	33.1	34.0	33.6	34.4	34.9
6H	33.6	34.3	34.1	34.8	35.3	33.7	34.4	34.2	34.9	35.4
8H	33.6	34.2	34.1	34.7	35.3	34.0	34.6	34.5	35.1	35.7
CIE190: 2010										

CIE190: 2010  
Area: 0.066 m2

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-11-24

V(B) Range:-90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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**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) $k(RI) \times RCR = 5$									
$k = 0.60$	49	36	28	48	35	28	47	35	27	20
0.80	60	46	38	58	46	38	57	45	37	29
1.00	69	56	48	68	56	48	65	58	47	39
1.25	77	65	57	76	64	57	73	63	56	48
1.50	83	72	64	81	71	63	78	69	62	54
2.00	91	82	74	89	80	73	86	78	72	63
2.50	96	87	80	94	86	79	90	83	77	69
3.00	100	92	86	98	91	85	93	88	83	74
4.00	105	98	93	102	96	92	98	93	89	80
5.00	107	102	97	105	100	96	100	96	93	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004	Suspended						SHRNOM = 1.25			

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-11-24

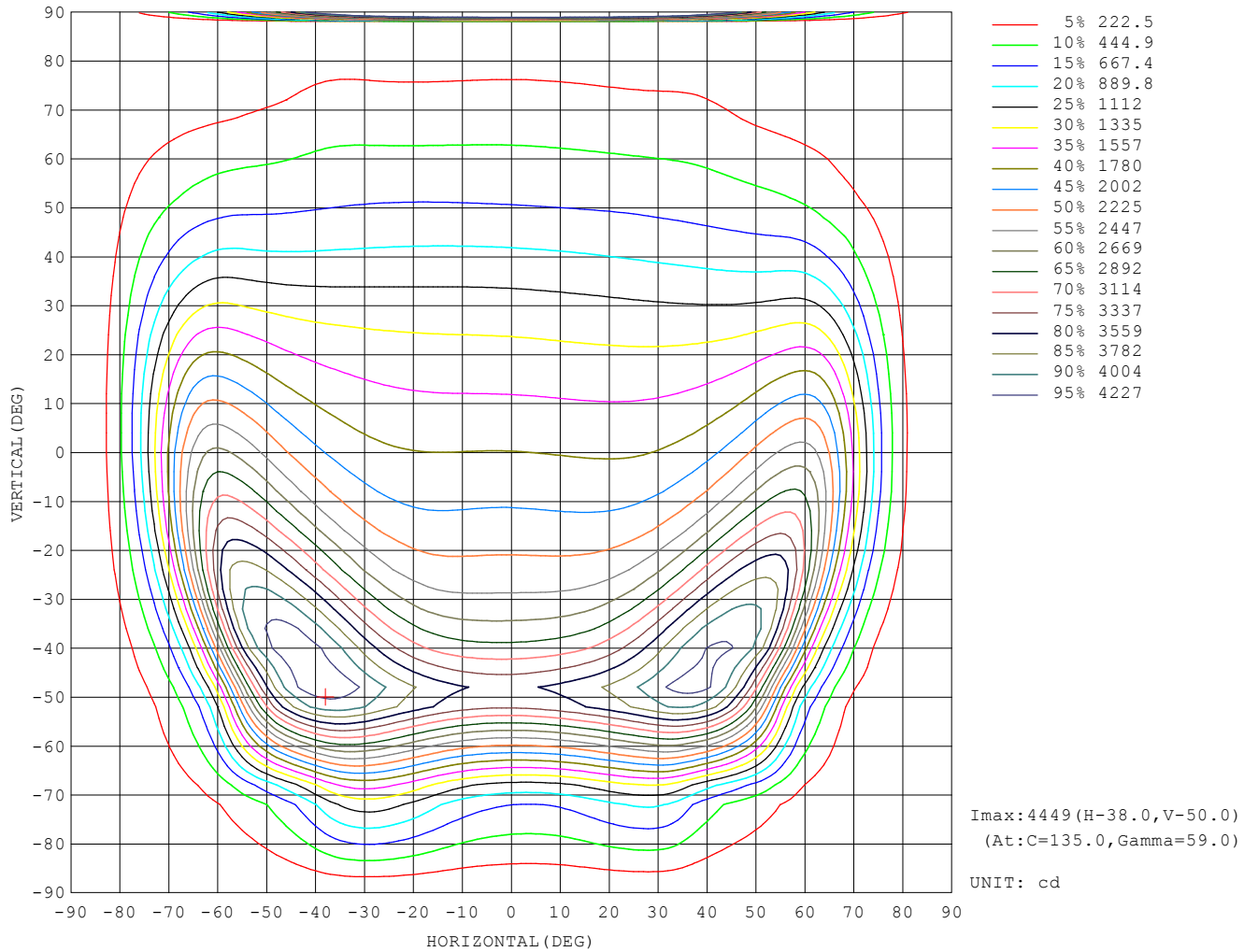
V(B) Range:-90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM



H( $\beta$ ) Range: -90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WJH  
Test Date: 2020-11-24

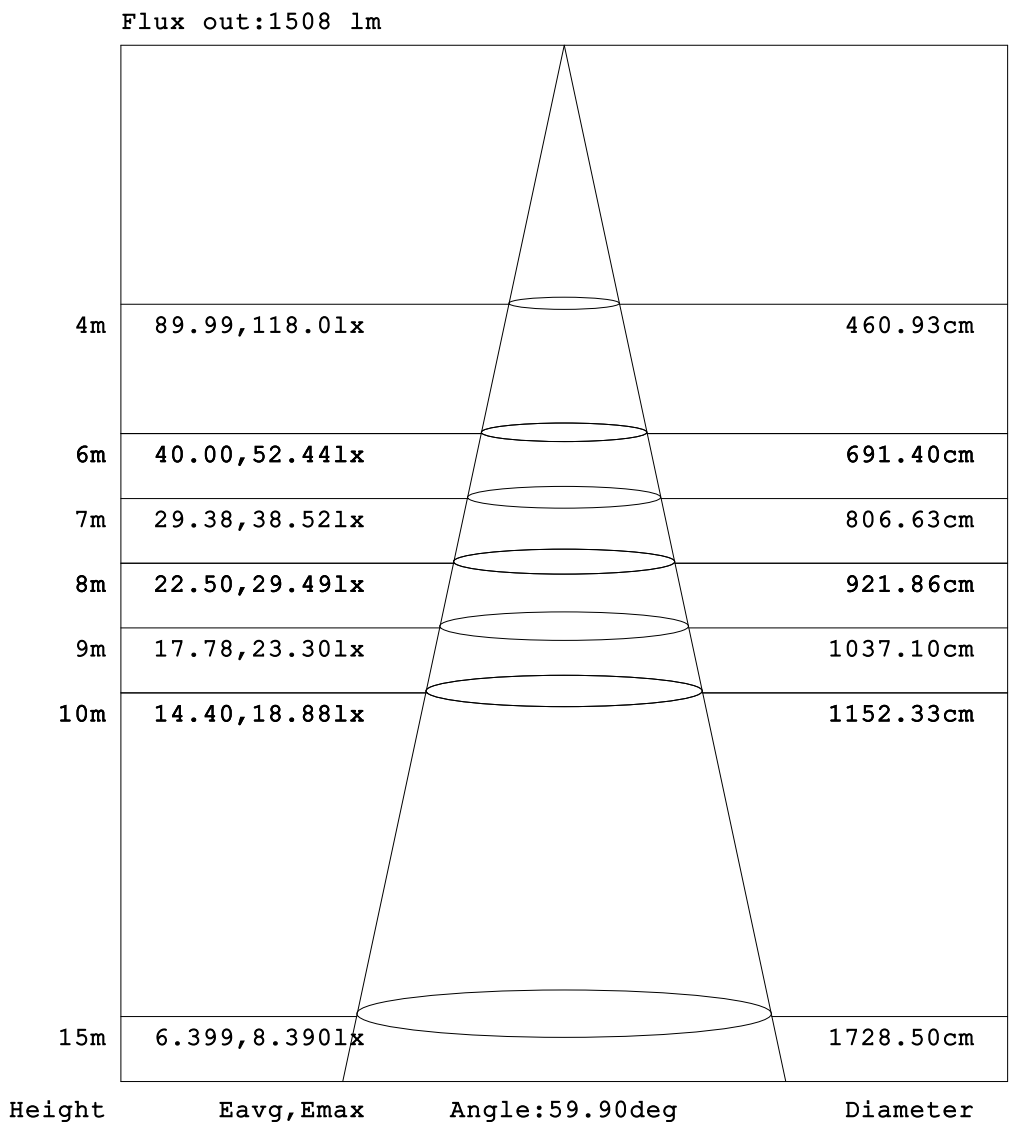
V(B) Range: -90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:



AAI Figure



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

H( $\beta$ ) Range: -90 - 90DEG  
 H( $\beta$ ) Interval: 1.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: WJH  
 Test Date: 2020-11-24

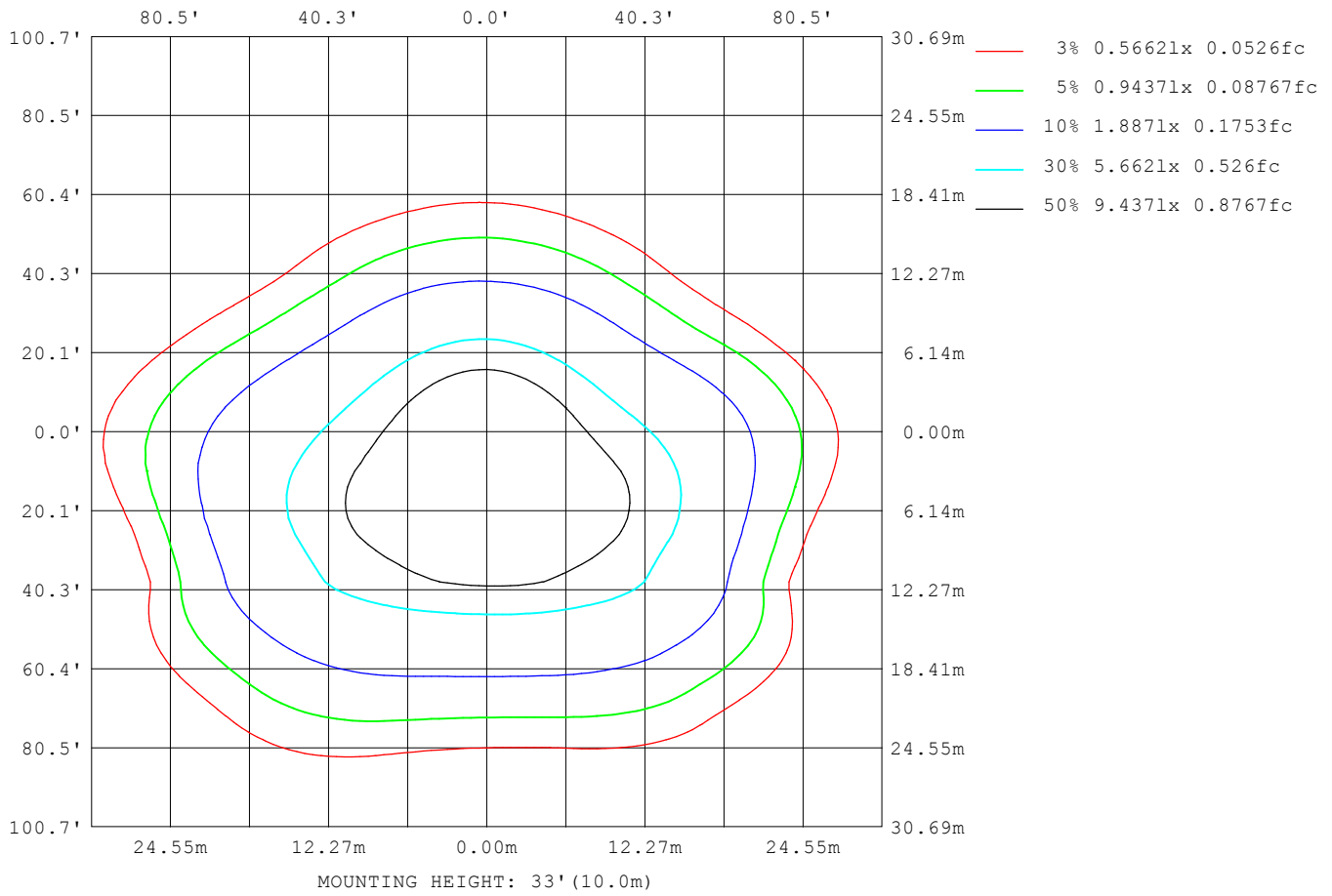
V(B) Range: -90 - 90DEG  
 V(B) Interval: 2.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
 Humidity: 65.0%  
 Test Distance: 9.350m [K=1.0000]  
 Remarks:

Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM



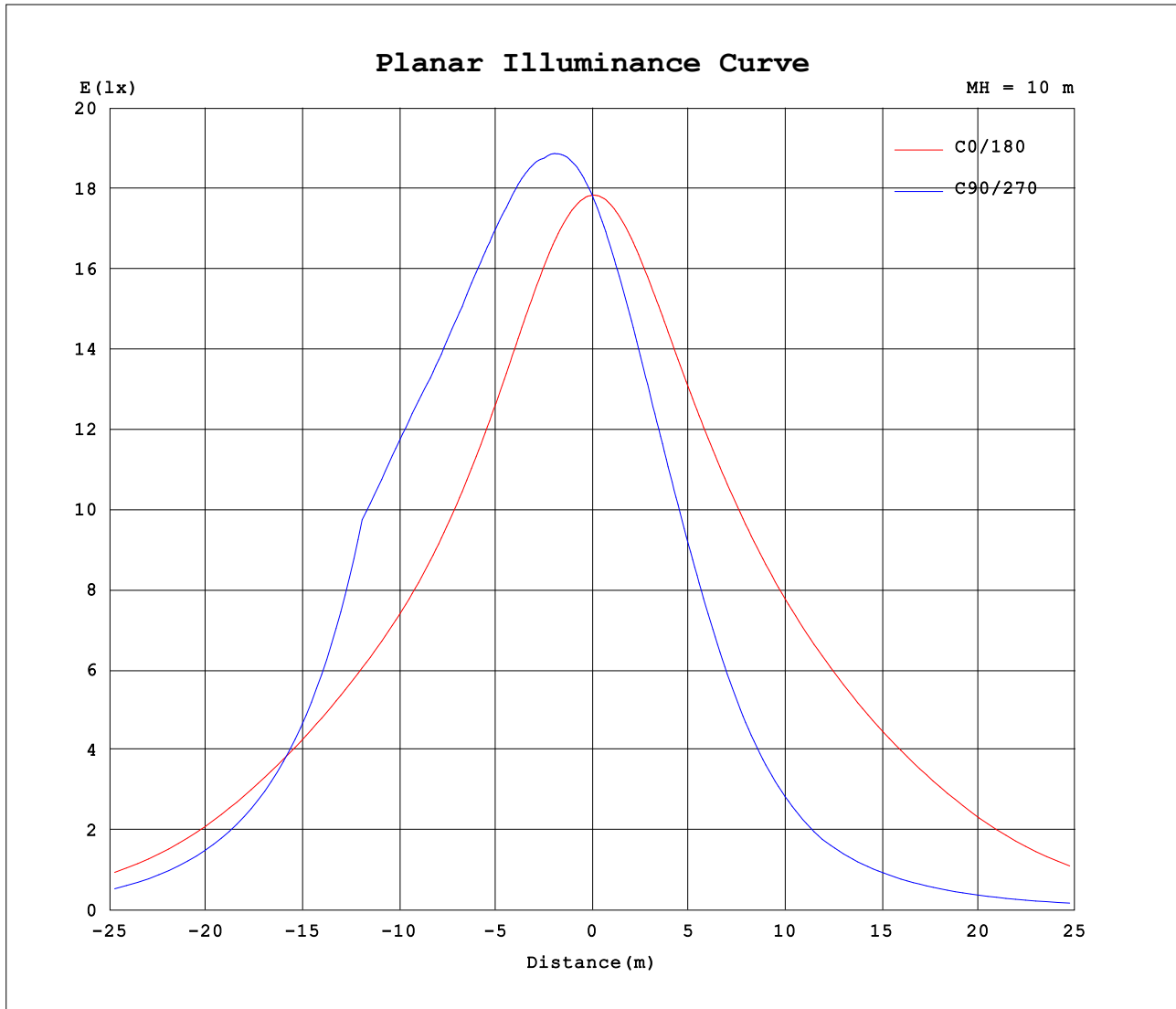
H( $\beta$ ) Range:-90 - 90DEG  
 H( $\beta$ ) Interval: 1.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:WJH  
 Test Date:2020-11-24

V(B) Range:-90 - 90DEG  
 V(B) Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
 Humidity:65.0%  
 Test Distance:9.350m [K=1.0000]  
 Remarks:

Checker: LI

Assessor:

Planar Illuminance Curve



H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-11-24

V(B) Range:-90 - 90DEG  
V(B) Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor: