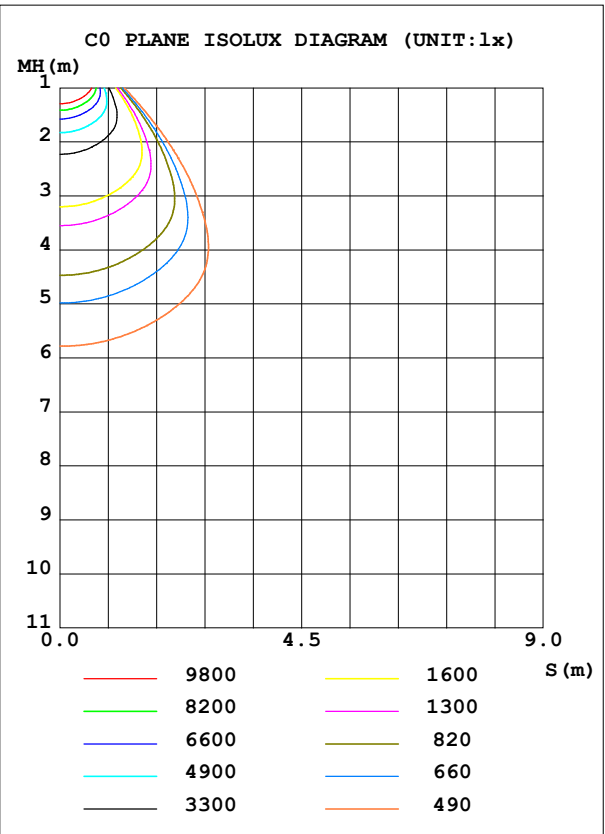
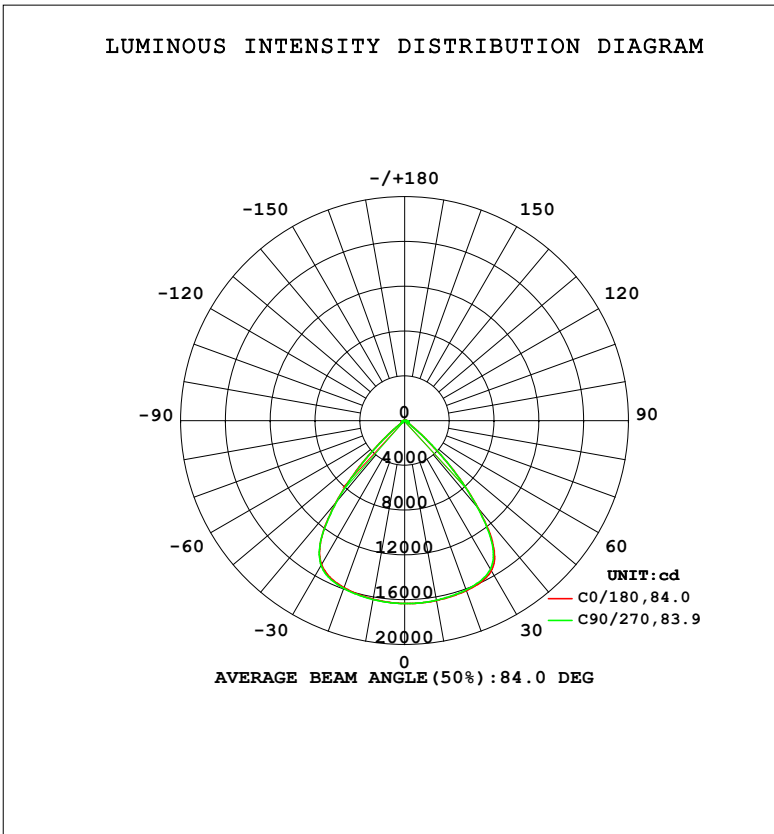


EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.9V I:0.6594A P:149.9W PF:0.9888 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:27046.4x1 lm		
NAME: HB42-150HD-4070-H08801	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	/	Imax (cd)	16353	S/MH (C0/180)	1.20
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.20
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	27046	η UP, DN (C0-180)	0.0, 50.8
NOMINAL FLUX (lm)	27046.4	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: LCX
 Test Date: 2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 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	1631	1632	1629	1623	1619	1619	1623	1627	0- 10	1556	1556	5.75,5.75
20	1615	1616	1608	1596	1587	1586	1594	1605	10- 20	4574	6129	22.7,22.7
30	1548	1551	1532	1503	1485	1477	1493	1520	20- 30	7252	13381	49.5,49.5
40	1025	1038	1016	980.2	956.7	938.8	948.7	983.2	30- 40	8147	21528	79.6,79.6
50	195.3	202.0	201.4	193.7	182.9	172.7	170.3	179.6	40- 50	4267	25795	95.4,95.4
60	35.86	34.71	32.09	35.28	36.26	34.68	32.02	35.22	50- 60	563.9	26359	97.5,97.5
70	28.33	27.23	26.37	28.10	29.36	28.41	26.64	27.92	60- 70	311.2	26670	98.6,98.6
80	18.75	18.12	20.06	19.04	19.10	19.26	20.05	18.53	70- 80	254.4	26924	99.5,99.5
90	2.146	2.582	2.616	2.462	2.185	2.170	1.951	1.918	80- 90	122.0	27046	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): 24370 lm

%lum = 90.1%

%lamp = 90.1%

Conical surface Flux(120deg): 26359 lm

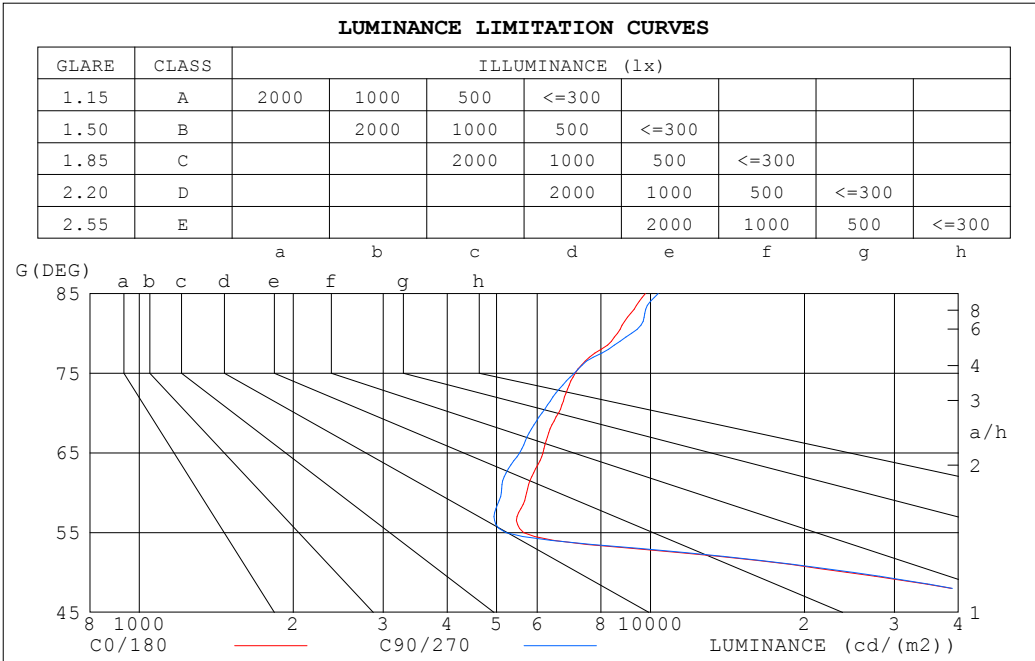
%lum = 97.5%

%lamp = 97.5%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:LCX
 Test Date:2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:9.350m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	9765	10348
80	8615	9188
75	7126	7089
70	6607	6132
65	6156	5545
60	5721	5104
55	5652	5215
50	24238	24917
45	65342	64812

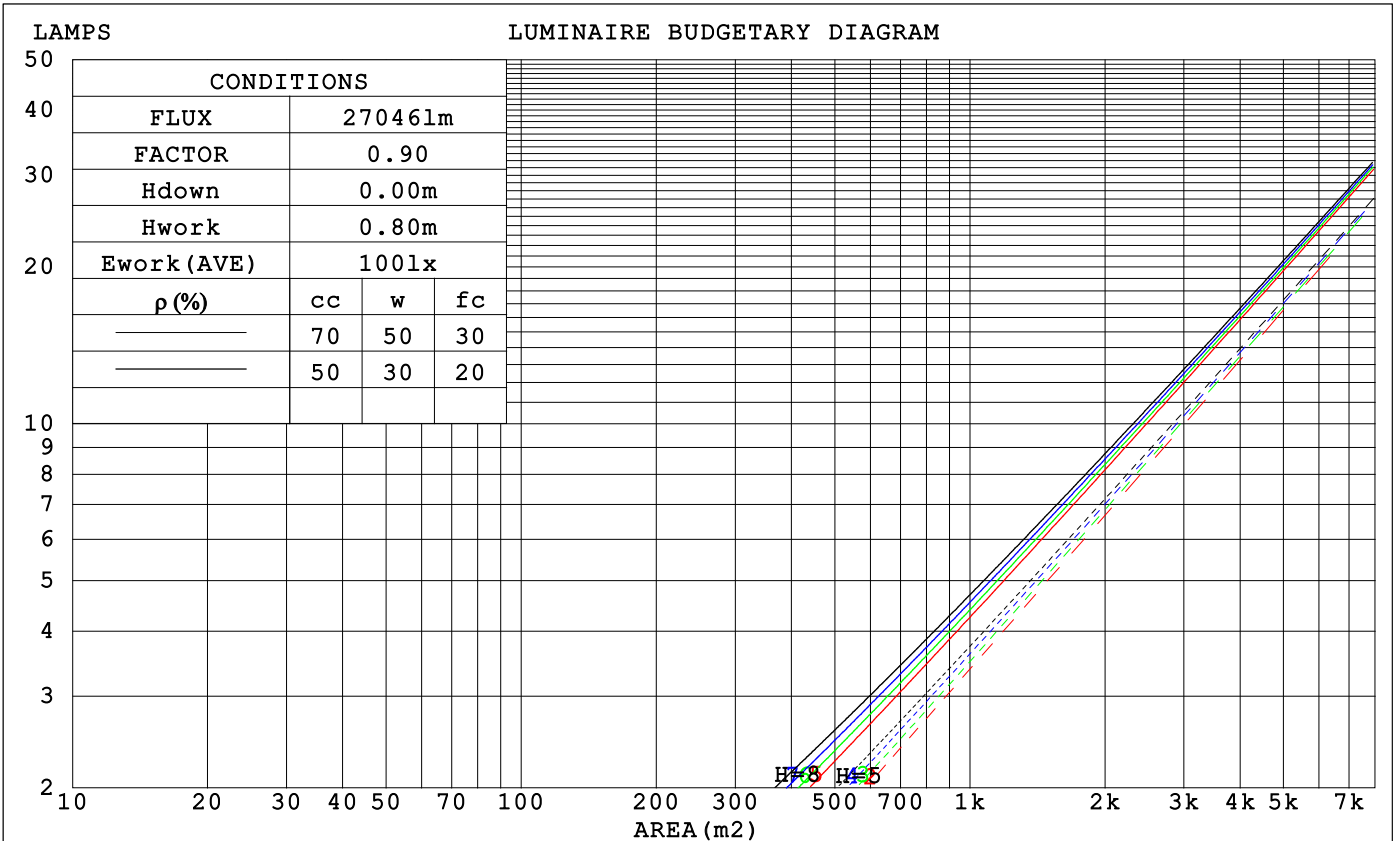
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: LCX
 Test Date: 2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 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	1.09	1.06	1.04	1.07	1.04	1.02	1.03	1.01	.99	.99	.97	.96	.96	.94	.93	.91
2.0	.00	.95	.91	.98	.94	.90	.95	.91	.88	.92	.89	.86	.89	.86	.84	.83
3.0	.91	.86	.81	.90	.85	.80	.87	.83	.79	.85	.81	.78	.82	.79	.76	.75
4.0	.84	.77	.73	.83	.77	.72	.81	.75	.71	.78	.74	.70	.76	.73	.69	.68
5.0	.77	.70	.65	.76	.70	.65	.74	.69	.64	.73	.68	.64	.71	.67	.63	.62
6.0	.71	.64	.59	.70	.64	.59	.69	.63	.59	.67	.62	.58	.66	.61	.58	.56
7.0	.66	.59	.54	.65	.59	.54	.64	.58	.53	.62	.57	.53	.61	.56	.53	.51
8.0	.61	.54	.49	.60	.54	.49	.59	.53	.49	.58	.53	.49	.57	.52	.49	.47
9.0	.57	.50	.45	.56	.50	.45	.55	.49	.45	.54	.49	.45	.53	.48	.45	.43
10.0	.53	.46	.42	.52	.46	.42	.51	.46	.42	.51	.45	.41	.50	.45	.41	.40



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:LCX
 Test Date:2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 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	.210	.119	.038	.203	.116	.037	.190	.109	.035	.179	.103	.033	.168	.097	.031	
2.0	.202	.111	.034	.196	.108	.033	.185	.103	.032	.175	.098	.031	.166	.094	.030	
3.0	.192	.102	.031	.187	.100	.030	.178	.096	.029	.169	.093	.028	.161	.089	.028	
4.0	.183	.095	.028	.179	.094	.028	.171	.090	.027	.163	.087	.026	.156	.085	.026	
5.0	.174	.089	.026	.170	.088	.025	.163	.085	.025	.156	.083	.025	.150	.080	.024	
6.0	.166	.083	.024	.163	.082	.024	.156	.080	.023	.150	.078	.023	.145	.076	.023	
7.0	.158	.078	.022	.155	.077	.022	.149	.076	.022	.144	.074	.021	.139	.072	.021	
8.0	.151	.074	.021	.148	.073	.021	.143	.071	.020	.138	.070	.020	.134	.069	.020	
9.0	.144	.070	.019	.142	.069	.019	.137	.068	.019	.133	.066	.019	.129	.065	.019	
10.0	.138	.066	.018	.136	.065	.018	.131	.064	.018	.127	.063	.018	.124	.062	.018	

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	.173	.157	.142	.148	.135	.122	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.160	.132	.109	.137	.114	.094	.094	.079	.066	.054	.046	.038	.017	.015	.013	
3.0	.150	.114	.085	.128	.098	.074	.088	.068	.052	.051	.040	.031	.016	.013	.010	
4.0	.141	.100	.068	.121	.086	.059	.083	.060	.042	.048	.035	.025	.015	.011	.008	
5.0	.133	.088	.055	.114	.076	.048	.079	.053	.034	.046	.031	.020	.015	.010	.007	
6.0	.126	.079	.046	.108	.069	.040	.075	.048	.028	.043	.028	.017	.014	.009	.006	
7.0	.120	.072	.039	.103	.063	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.115	.066	.033	.099	.058	.029	.068	.040	.020	.040	.024	.012	.013	.008	.004	
9.0	.110	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.105	.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°C
 Operators: LCX
 Test Date: 2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 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	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.8
3H	12.1	13.2	12.5	13.5	13.9	12.6	13.6	13.0	13.9	14.3
4H	13.4	14.4	13.8	14.7	15.1	13.8	14.7	14.2	15.1	15.4
6H	14.7	15.5	15.1	15.9	16.3	15.1	15.9	15.5	16.3	16.7
8H	15.2	16.0	15.6	16.4	16.8	15.6	16.4	16.1	16.8	17.2
12H	15.6	16.4	16.1	16.8	17.2	16.0	16.8	16.5	17.2	17.6
4H 2H	11.5	11.5	11.5	11.6	12.0	11.5	11.8	11.5	12.1	12.5
3H	13.2	14.0	13.6	14.4	14.8	13.7	14.4	14.1	14.8	15.3
4H	14.6	15.3	15.1	15.7	16.2	15.0	15.7	15.5	16.1	16.6
6H	16.0	16.6	16.5	17.1	17.6	16.5	17.1	17.0	17.6	18.1
8H	16.7	17.2	17.1	17.7	18.1	17.2	17.7	17.6	18.2	18.6
12H	17.2	17.6	17.6	18.1	18.6	17.6	18.1	18.1	18.6	19.1
8H 4H	15.2	15.7	15.6	16.2	16.6	15.6	16.1	16.0	16.6	17.0
6H	16.8	17.2	17.3	17.7	18.2	17.3	17.7	17.8	18.2	18.7
8H	17.5	17.9	18.1	18.5	18.9	18.0	18.4	18.6	19.0	19.5
12H	18.2	18.5	18.7	19.0	19.6	18.7	19.0	19.2	19.5	20.1
12H 4H	15.3	15.8	15.8	16.3	16.7	15.7	16.2	16.2	16.7	17.1
6H	17.0	17.4	17.5	17.8	18.4	17.5	17.9	18.0	18.3	18.9
8H	17.8	18.1	18.3	18.6	19.2	18.3	18.6	18.8	19.1	19.7
CIE190: 2010										

CIE190: 2010
 Area: 0.1257 m2

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:LCX
 Test Date:2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

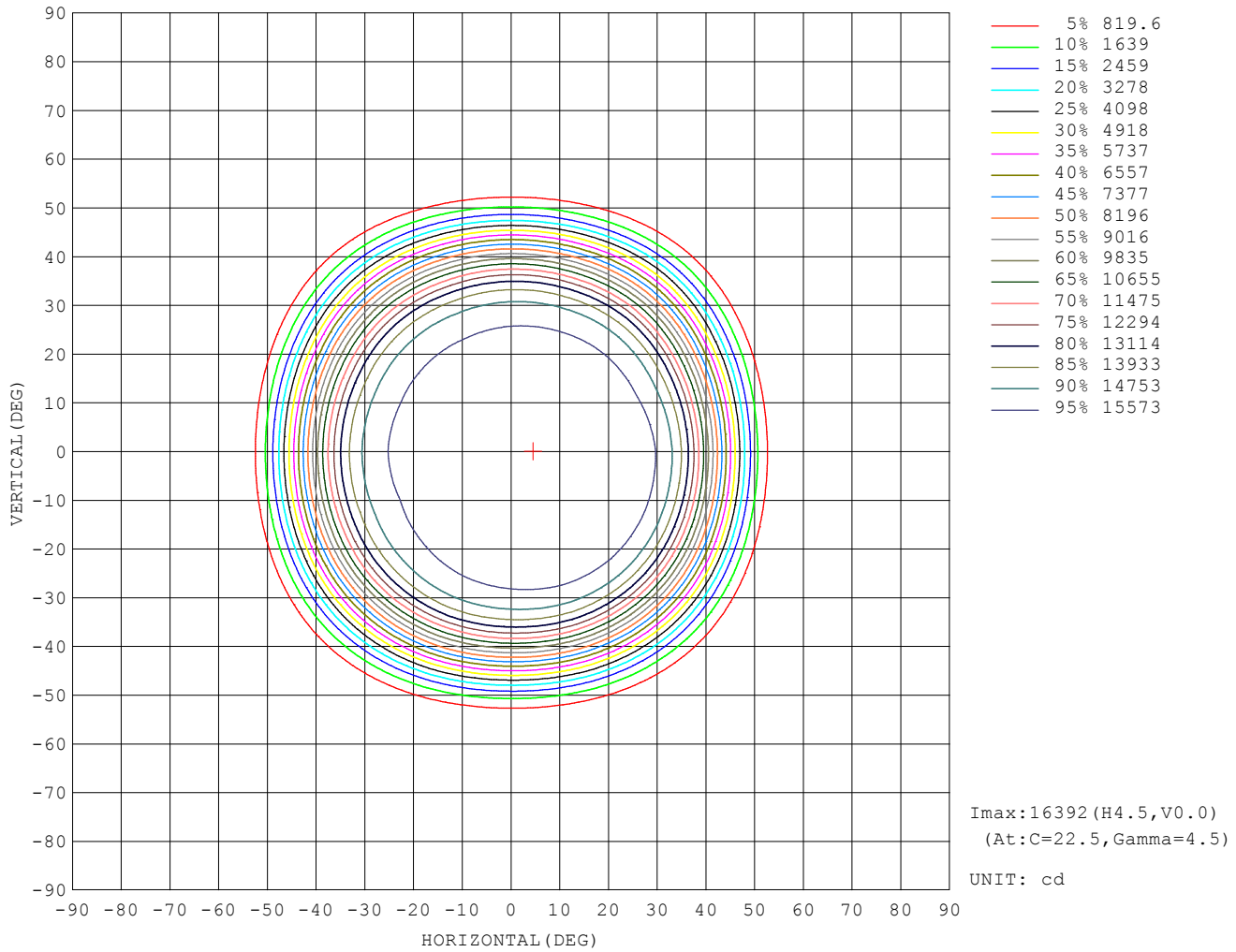
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	79	71	66	78	71	66	77	70	66	62
0.80	88	80	75	87	80	75	85	79	75	70
1.00	94	87	82	93	86	82	91	86	81	77
1.25	99	92	88	98	92	88	95	90	87	82
1.50	102	96	92	101	95	91	98	94	90	85
2.00	106	101	97	104	100	96	101	98	95	89
2.50	108	103	100	106	102	99	103	99	97	90
3.00	110	106	102	108	104	101	104	101	99	92
4.00	112	109	106	110	107	104	106	104	102	94
5.00	113	111	108	111	109	107	107	105	103	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: LCX
 Test Date: 2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

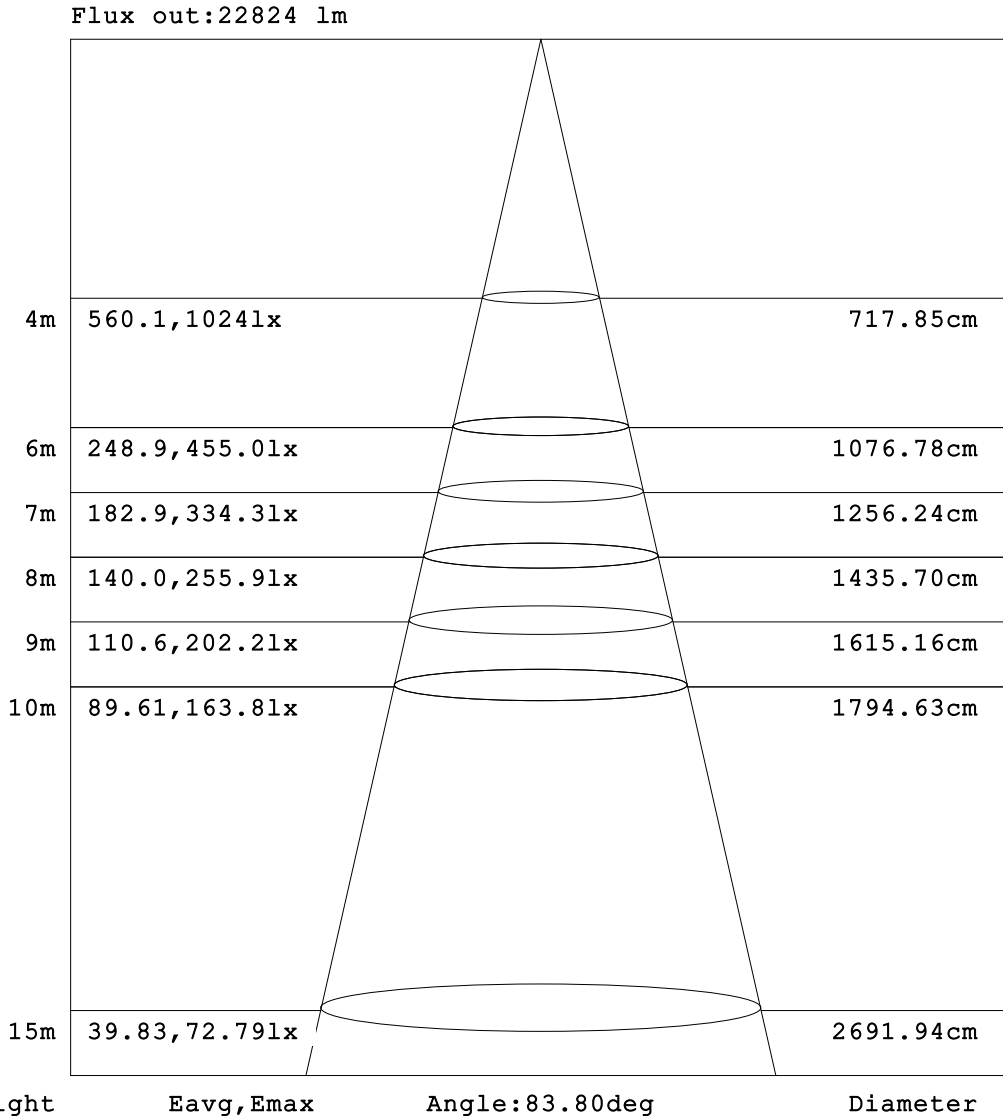
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:LCX
 Test Date:2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:9.350m [K=1.0000]
 Remarks:

AAI Figure



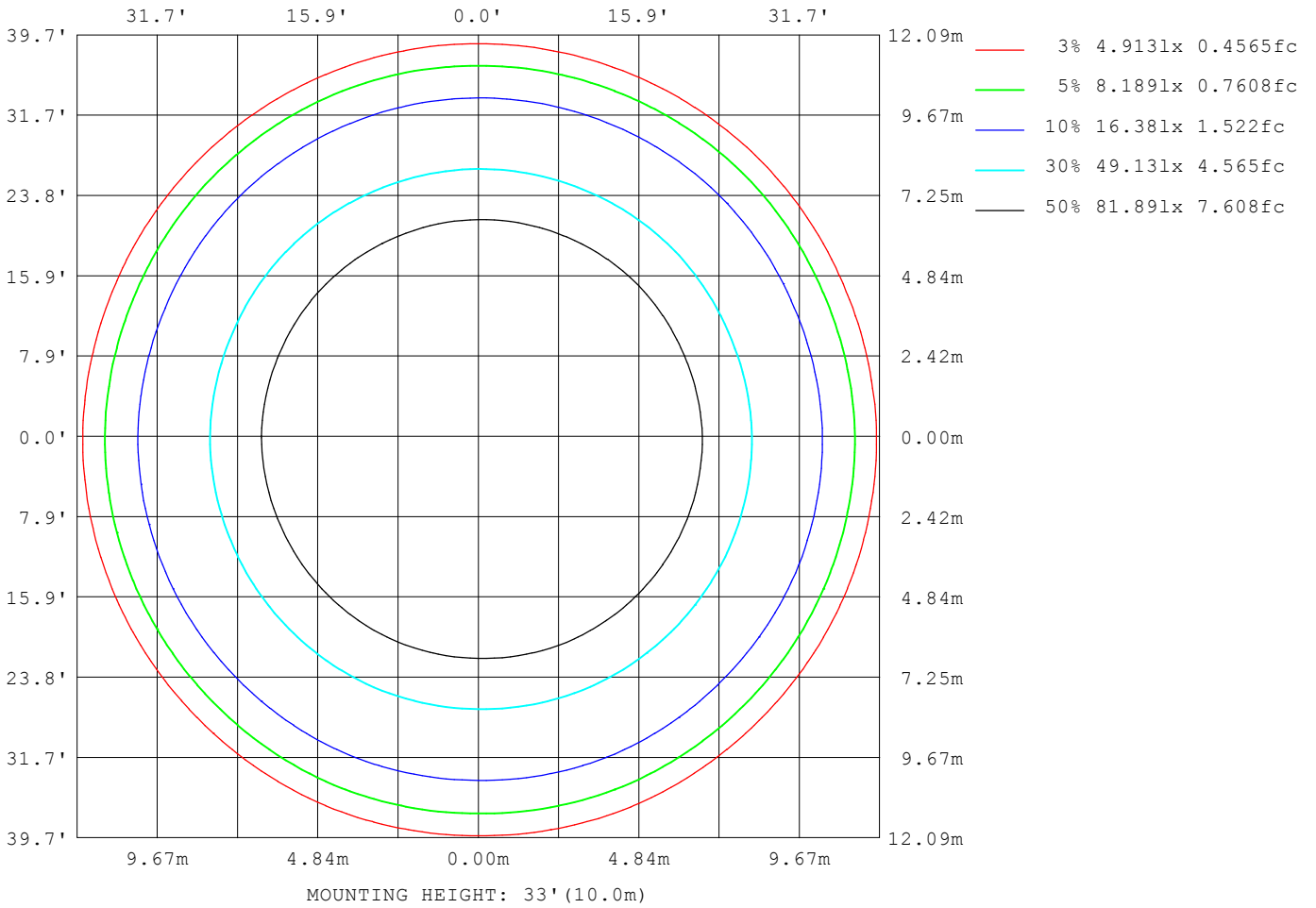
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: LCX
 Test Date: 2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

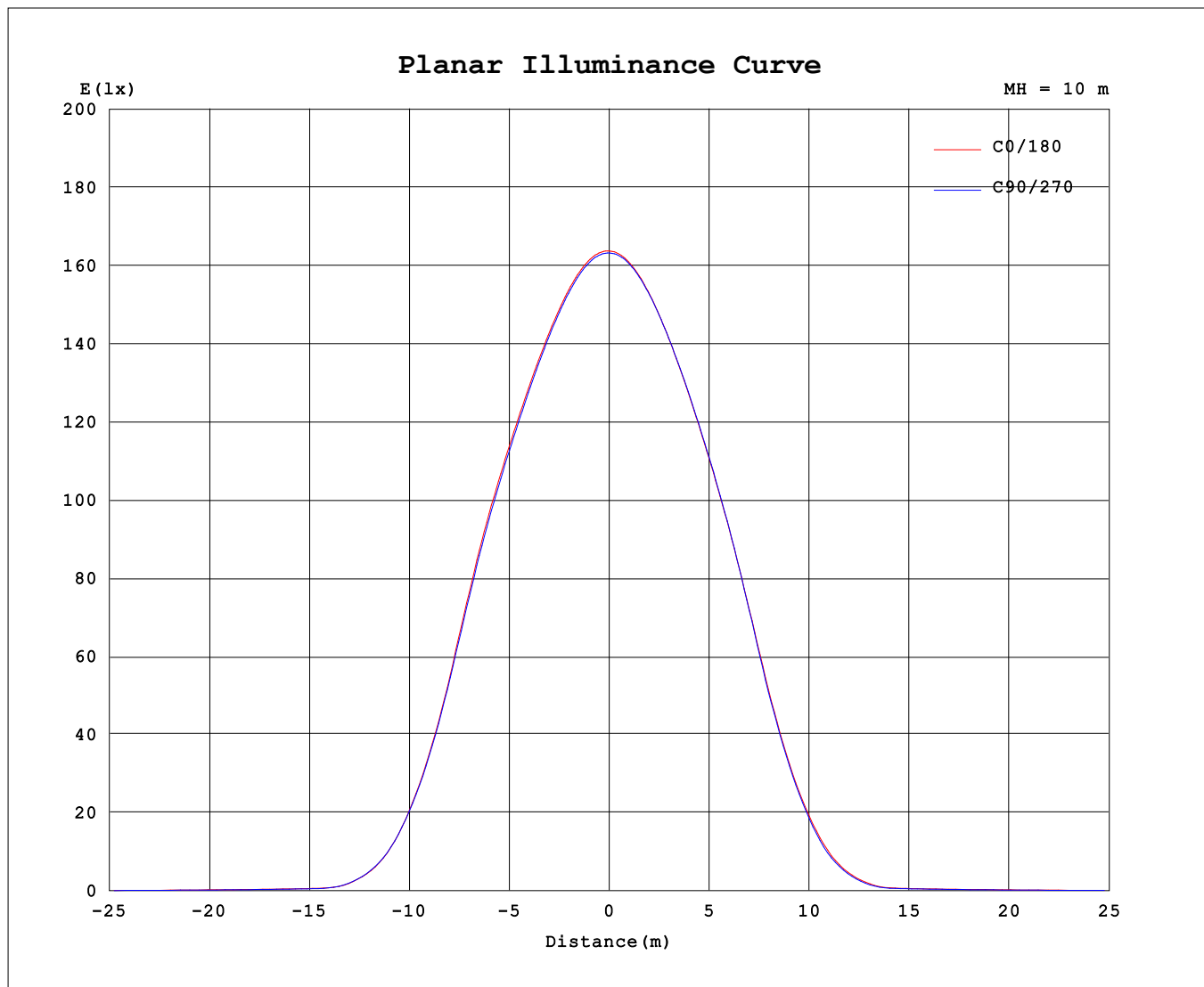
ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: LCX
 Test Date: 2023-10-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: LCX
Test Date: 2023-10-06

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 9.350m [K=1.0000]
Remarks: