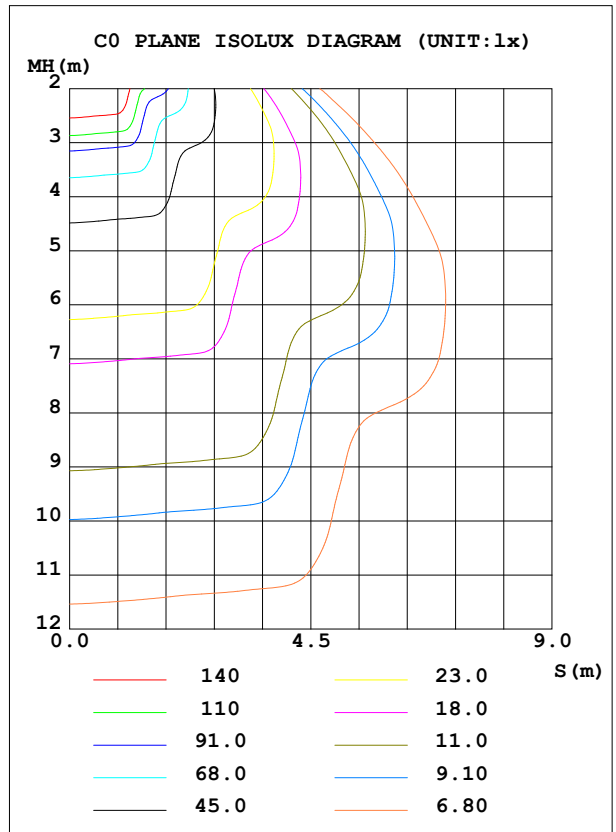
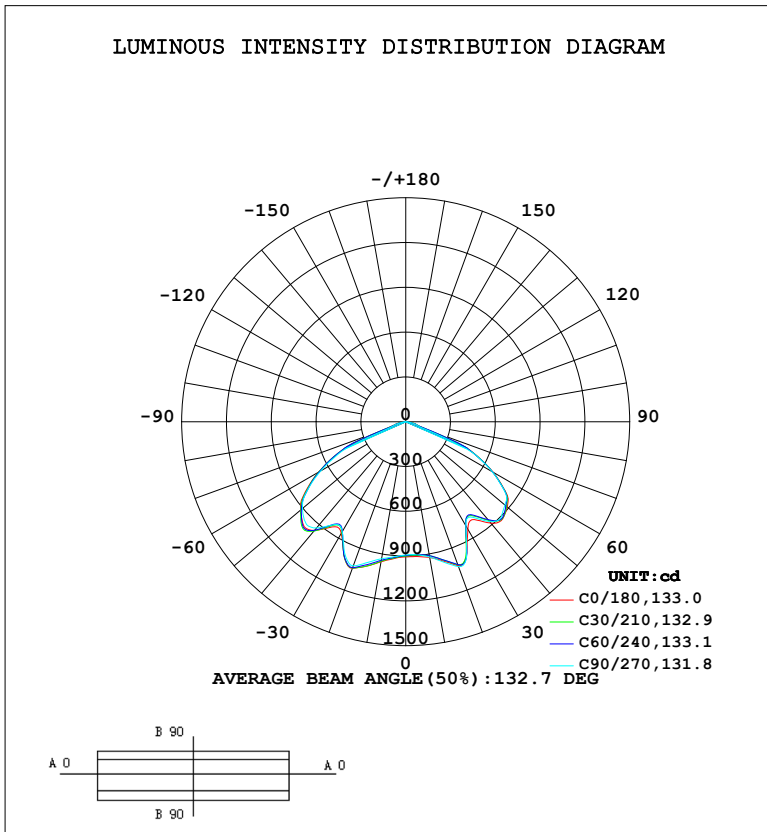


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.12V I:0.1426A P:29.961W PF:0.9545 Freq:50.00Hz Lamp Flux:3308.03x1 lm		
NAME: HYO-240R-30W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.41 lm/W			
MODEL		I _{max} (cd)	1052	S/MH (C0/180)	1.53
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.51
RATED VOLTAGE (V)	--	TOTAL FLUX (lm)	3308.0	η UP, DN (C0-180)	0.0, 49.6
NOMINAL FLUX (lm)	3308.03	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	--	η down (%)	100.0	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [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	923.1	908.6	919.8	930.7	951.9	946.5	931.5	917.1	0- 10	86.88	86.88	2.63,2.63
20	1026	1018	1032	1042	1045	1044	1027	1020	10- 20	278.2	365.1	11,11
30	831.8	792.4	806.5	834.1	864.3	852.7	850.9	839.2	20- 30	439.2	804.3	24.3,24.3
40	886.2	854.7	872.5	905.9	949.9	956.9	927.9	902.4	30- 40	524.8	1329	40.2,40.2
50	887.4	876.9	867.3	870.4	918.9	912.9	903.2	874.8	40- 50	712.5	2042	61.7,61.7
60	675.4	675.0	669.1	673.7	672.0	666.0	655.3	661.4	50- 60	712.8	2754	83.3,83.3
70	142.4	163.2	104.7	183.5	169.8	200.6	108.0	147.1	60- 70	460.9	3215	97.2,97.2
80	43.63	43.29	20.79	43.51	46.51	45.03	21.69	42.37	70- 80	80.05	3295	99.6,99.6
90	1.500	1.508	1.391	1.492	1.510	1.514	1.370	1.505	80- 90	12.63	3308	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): 1673.4 lm

%lum = 50.6%

%lamp = 50.6%

Conical surface Flux(120deg): 2754.4 lm

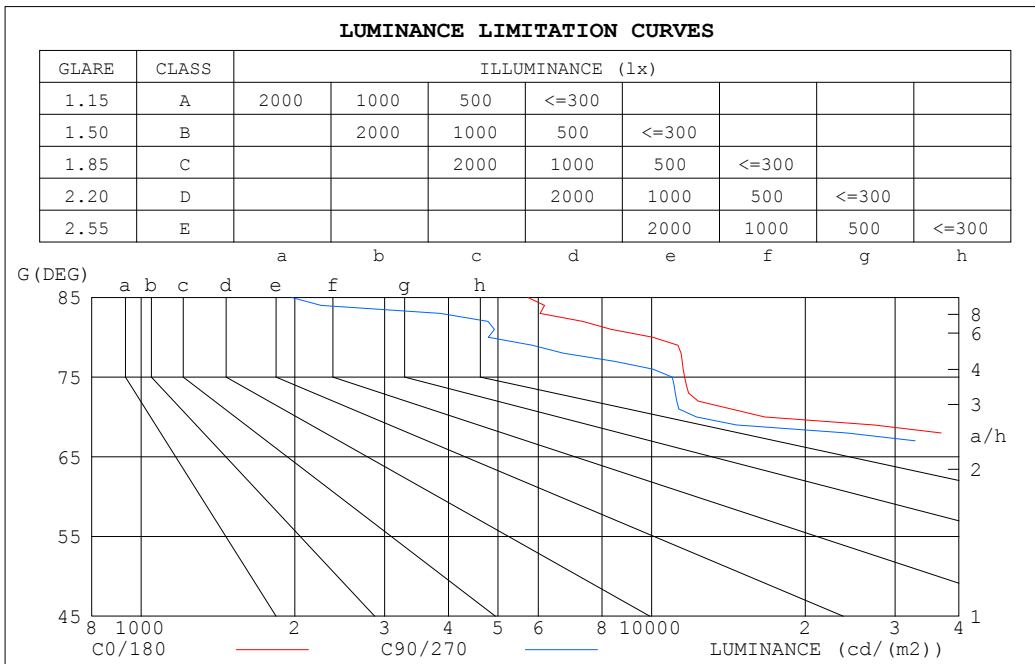
%lum = 83.3%

%lamp = 83.3%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES



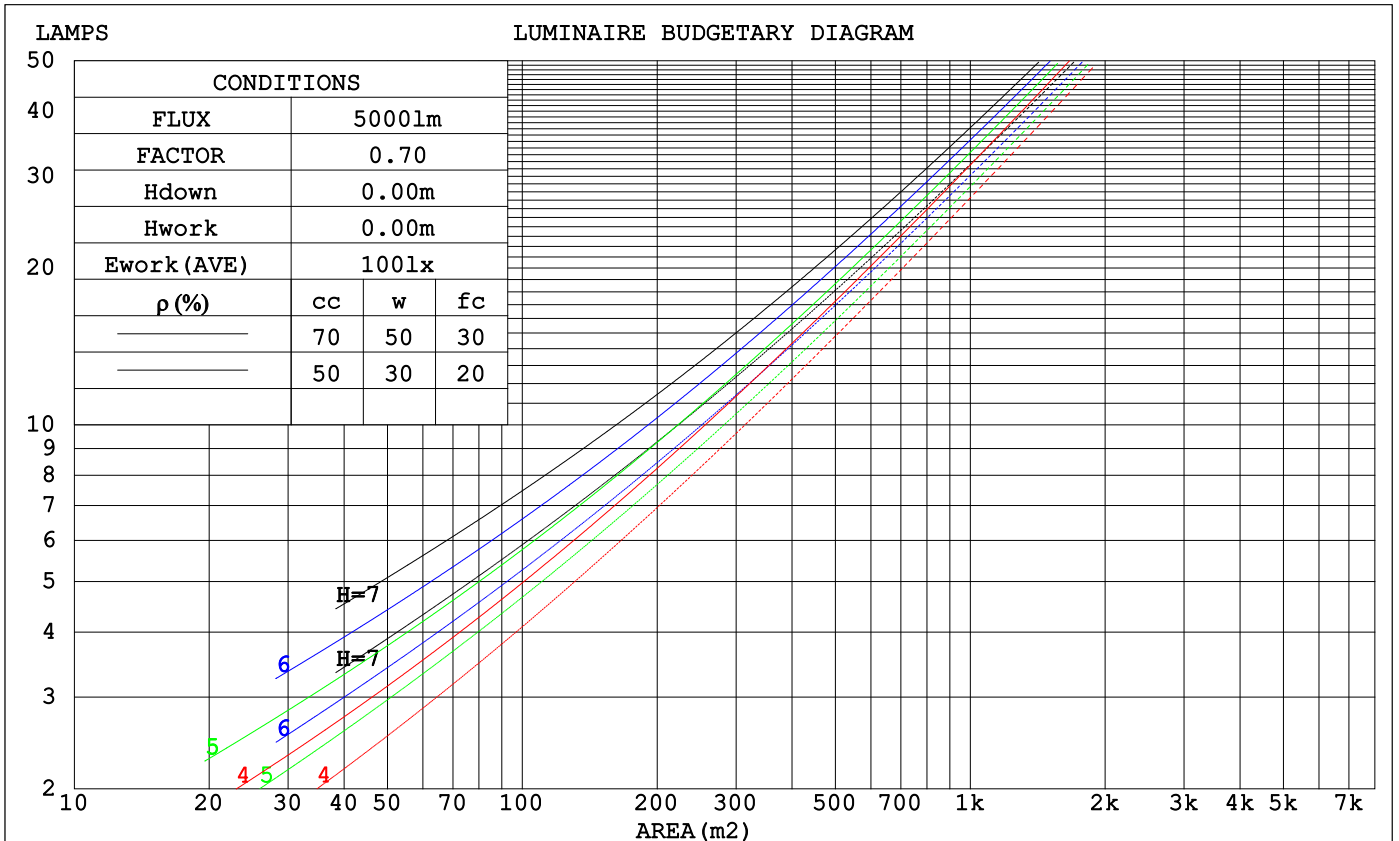
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	5727	1974
80	10051	4790
75	11607	10983
70	16653	12243
65	47954	47336
60	54029	53528
55	56863	56320
50	55223	53971
45	51971	51091

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

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	1.05	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.88	.86
2.0	.92	.85	.80	.90	.84	.79	.86	.81	.77	.83	.79	.75	.80	.77	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.67	.63	.70	.66	.62	.60
4.0	.71	.62	.55	.69	.61	.55	.67	.60	.54	.64	.58	.53	.62	.57	.52	.50
5.0	.62	.53	.47	.61	.53	.46	.59	.52	.46	.57	.51	.45	.55	.50	.45	.43
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.44	.39	.50	.44	.39	.37
7.0	.50	.41	.35	.49	.41	.35	.48	.40	.35	.46	.39	.34	.45	.39	.34	.32
8.0	.45	.37	.31	.45	.36	.31	.43	.36	.31	.42	.35	.30	.41	.35	.30	.28
9.0	.41	.33	.27	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.29	.24	.36	.29	.24	.35	.29	.24	.22



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

WEC AND CCEC

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	.284	.162	.051	.277	.158	.050	.264	.151	.048	.252	.145	.047	.241	.140	.045	
2.0	.279	.153	.047	.273	.150	.046	.261	.145	.045	.250	.141	.044	.241	.136	.043	
3.0	.264	.141	.042	.259	.139	.042	.249	.135	.041	.239	.131	.040	.230	.128	.039	
4.0	.248	.129	.038	.243	.127	.038	.234	.124	.037	.225	.121	.037	.217	.118	.036	
5.0	.231	.118	.034	.227	.117	.034	.219	.114	.034	.211	.111	.033	.204	.109	.033	
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.191	.101	.030	
7.0	.202	.100	.028	.198	.099	.028	.192	.097	.028	.185	.095	.028	.180	.093	.027	
8.0	.189	.092	.026	.186	.091	.026	.180	.090	.026	.174	.088	.025	.169	.087	.025	
9.0	.177	.086	.024	.174	.085	.024	.169	.084	.024	.164	.082	.024	.159	.081	.023	
10.0	.166	.080	.022	.164	.079	.022	.159	.078	.022	.155	.077	.022	.150	.076	.022	

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	.179	.156	.136	.153	.134	.117	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.100	.146	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.076	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.061	.025	.078	.043	.018	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

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	27.6	29.1	27.9	29.3	29.5	27.5	29.1	27.8	29.3	29.5
3H	28.4	29.8	28.7	30.0	30.2	28.2	29.6	28.5	29.8	30.1
4H	28.3	29.7	28.6	29.9	30.2	28.1	29.5	28.4	29.7	30.0
6H	28.3	29.5	28.6	29.8	30.1	28.0	29.3	28.4	29.6	29.9
8H	28.2	29.4	28.6	29.7	30.0	28.0	29.2	28.3	29.5	29.8
12H	28.2	29.3	28.5	29.6	29.9	27.9	29.1	28.3	29.4	29.7
4H 2H	28.1	29.5	28.4	29.7	30.0	28.1	29.4	28.4	29.7	29.9
3H	28.8	30.0	29.2	30.3	30.6	28.7	29.9	29.1	30.2	30.5
4H	28.8	29.9	29.2	30.2	30.5	28.7	29.7	29.1	30.1	30.4
6H	28.8	29.8	29.2	30.1	30.5	28.6	29.6	29.0	29.9	30.3
8H	28.8	29.7	29.2	30.0	30.4	28.6	29.5	29.0	29.8	30.2
12H	28.8	29.6	29.2	29.9	30.3	28.6	29.3	29.0	29.7	30.1
8H 4H	28.8	29.6	29.2	30.0	30.4	28.6	29.5	29.0	29.9	30.2
6H	28.8	29.5	29.2	29.9	30.3	28.6	29.3	29.0	29.7	30.1
8H	28.8	29.4	29.2	29.8	30.3	28.6	29.2	29.0	29.6	30.1
12H	28.8	29.3	29.2	29.7	30.2	28.5	29.1	29.0	29.5	30.0
12H 4H	28.7	29.5	29.2	29.9	30.3	28.6	29.4	29.0	29.8	30.2
6H	28.8	29.4	29.2	29.8	30.3	28.6	29.2	29.0	29.6	30.1
8H	28.8	29.3	29.2	29.7	30.2	28.6	29.1	29.0	29.5	30.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.3 / - 0.3					+ 0.4 / - 0.5				
1.5H	+ 0.6 / - 0.6					+ 0.6 / - 1.2				
2.0H	+ 0.6 / - 1.3					+ 0.6 / - 1.5				

CIE Pub.117, 3308 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 4.2)
 Area: 0.025 m2

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

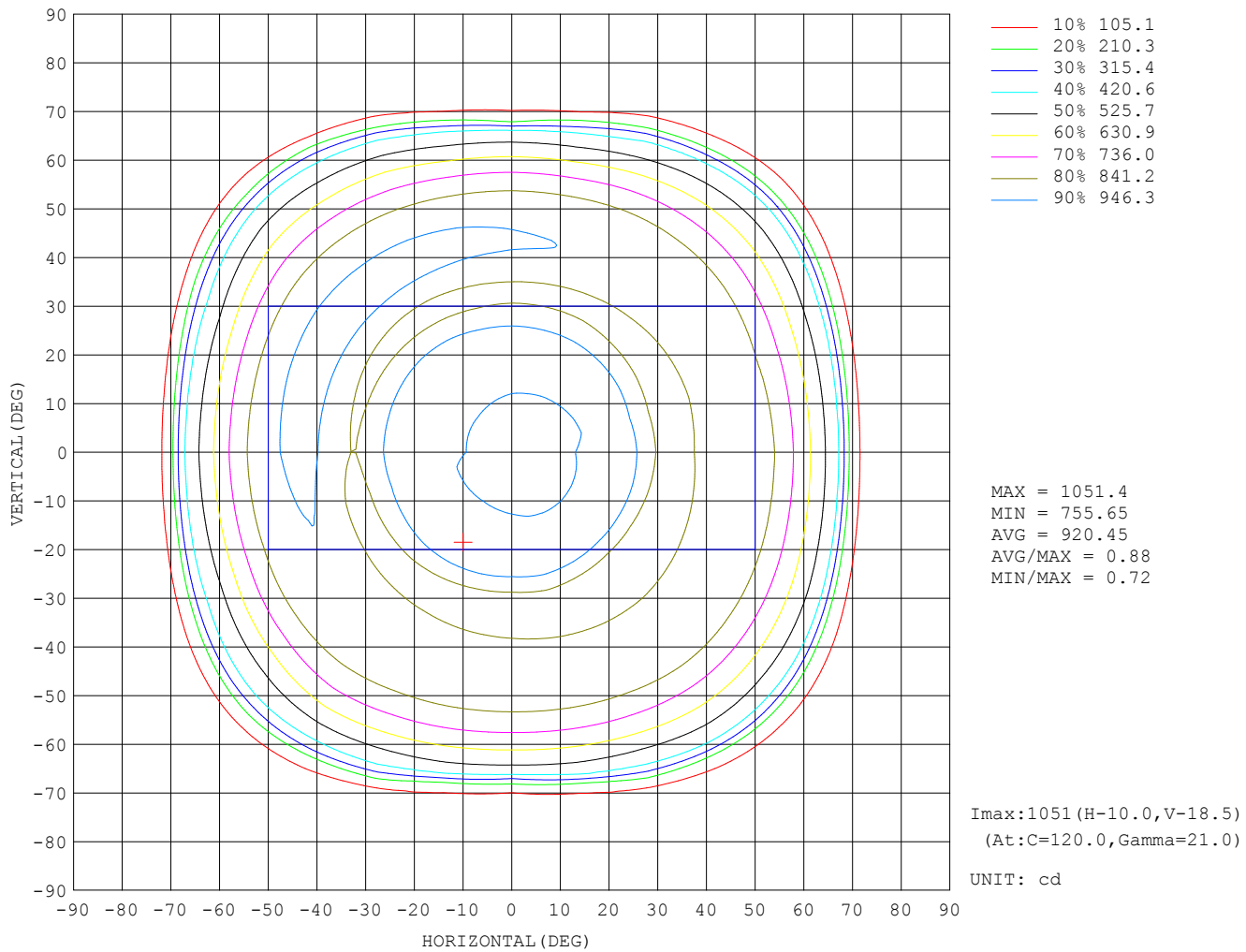
UTILIZATION FACTORS TABLE

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	54	42	34	53	41	34	52	41	34	27
0.80	65	53	45	64	52	45	62	52	45	37
1.00	75	63	56	74	63	56	71	64	55	48
1.25	83	72	65	81	71	64	78	70	64	56
1.50	88	78	71	86	77	71	83	75	70	62
2.00	96	87	81	94	86	80	90	84	79	71
2.50	100	92	86	98	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	80
4.00	107	102	97	105	100	96	100	97	93	84
5.00	109	105	101	107	103	99	102	99	96	87
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: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

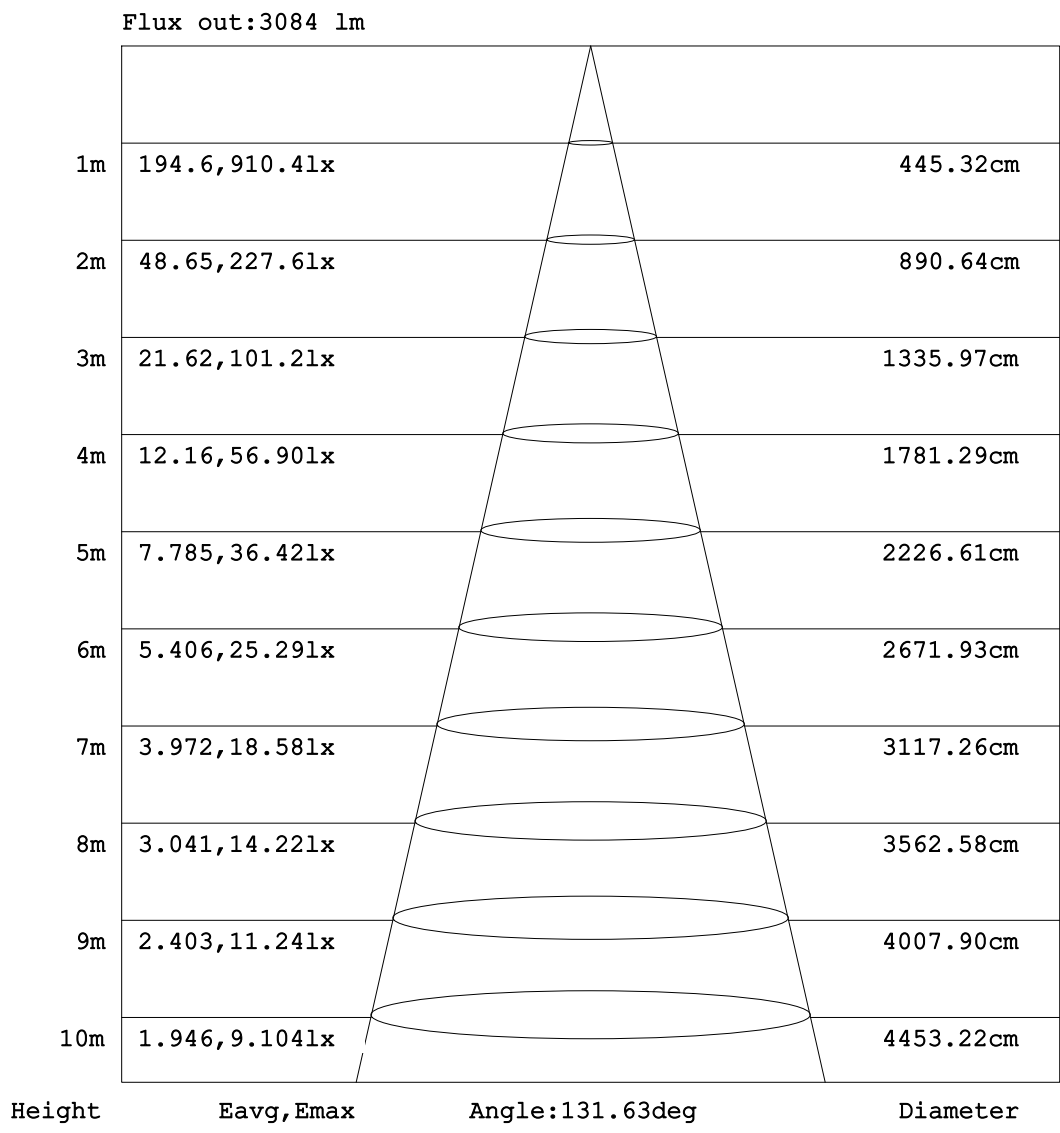
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

AAI Figure

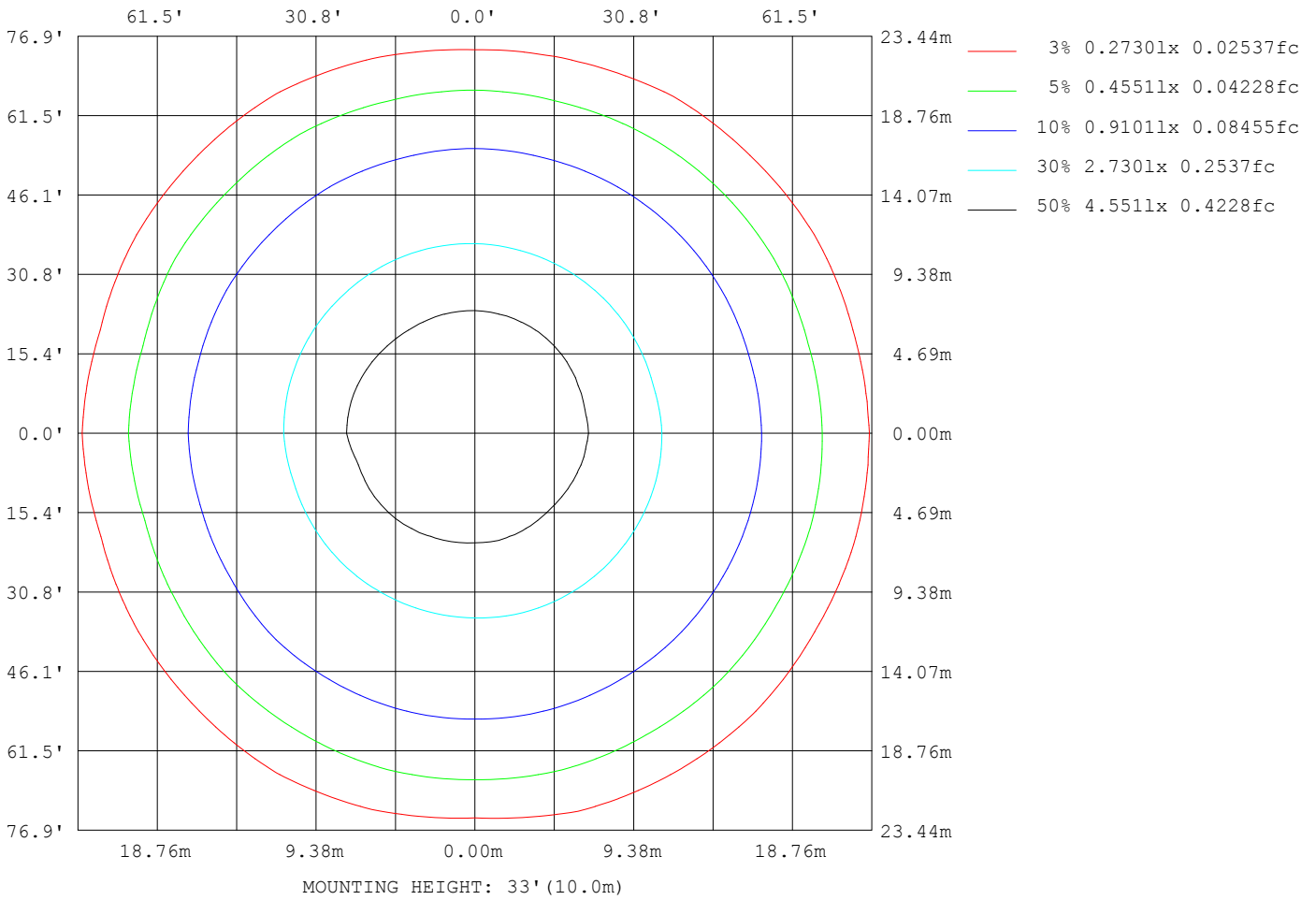


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

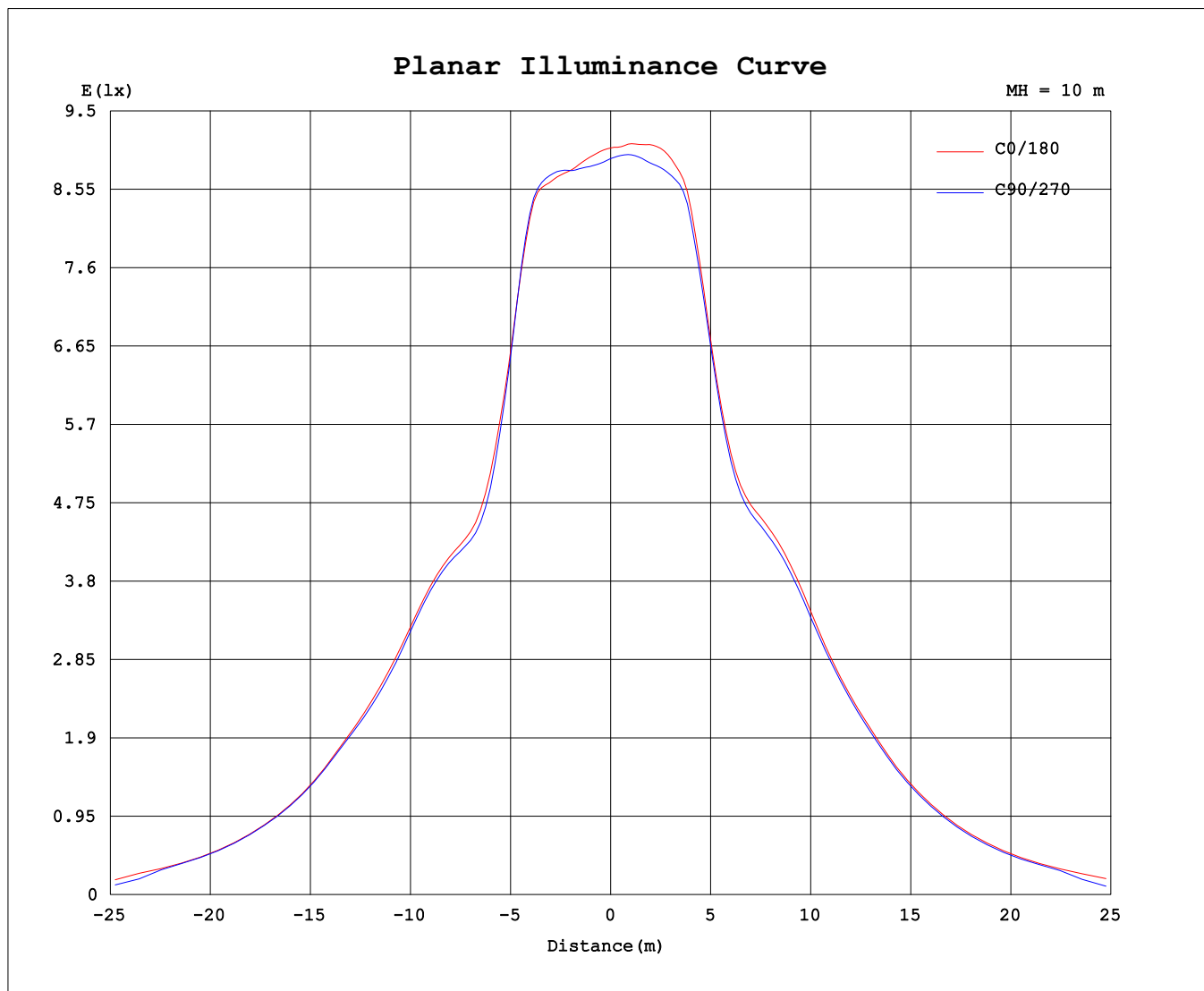
ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: 10.0deg/s
Temperature:25.3°C
Operators:DAMIN
Test Date:2023-08-15

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

