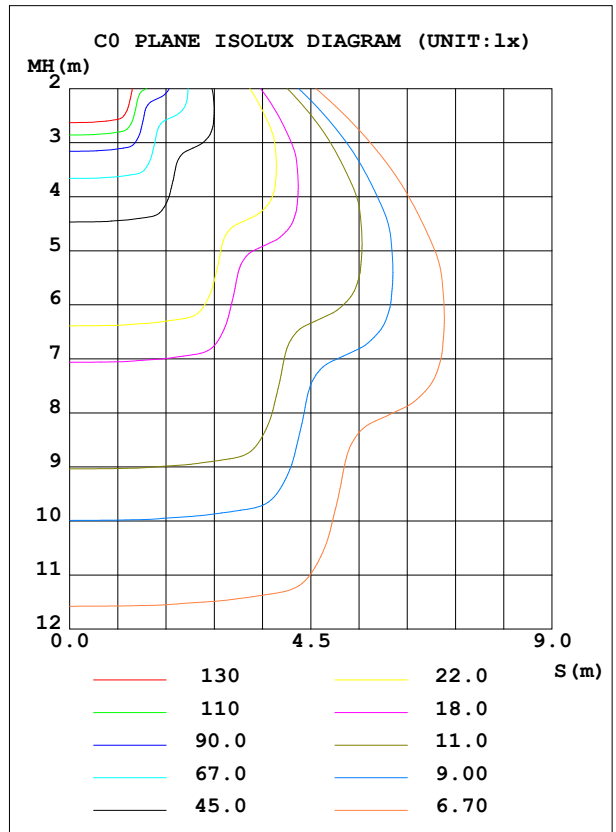
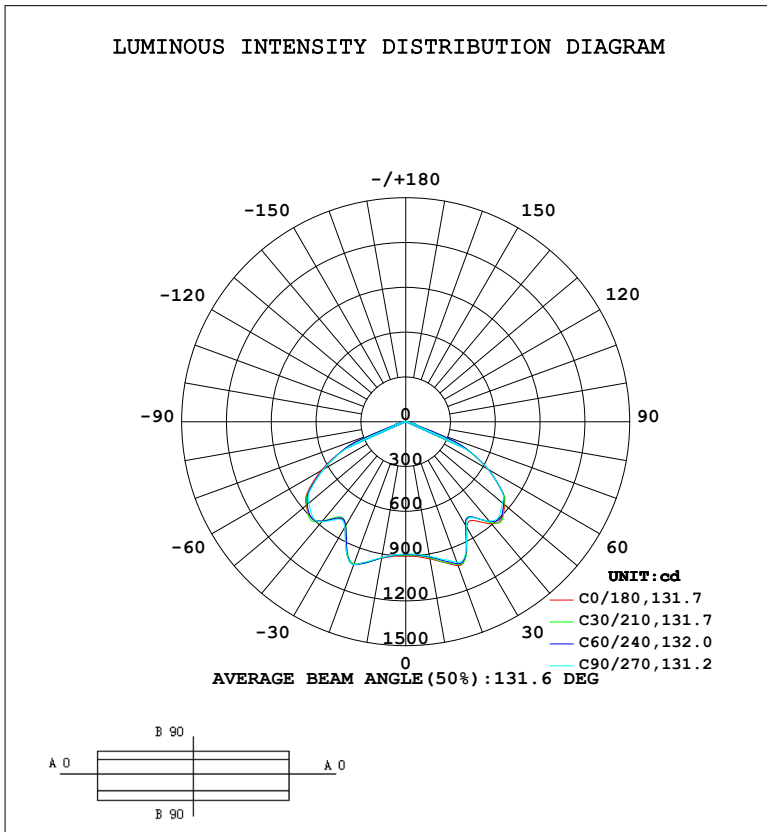


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.13V I:0.1424A P:29.781W PF:0.9502 Freq:50.00Hz Lamp Flux:3196.22x1 lm		
NAME: HYO-240R-30W 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 107.32 lm/W			
MODEL		I _{max} (cd)	1030	S/MH (C0/180)	1.34
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.38
RATED VOLTAGE (V)	--	TOTAL FLUX (lm)	3196.2	η UP, DN (C0-180)	0.0, 49.9
NOMINAL FLUX (lm)	3196.22	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.1
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	932.8	922.5	914.7	911.4	928.3	926.5	923.6	918.3	0- 10	86.30	86.30	2.7,2.7
20	1027	1014	1000	984.5	1014	1015	1018	1006	10- 20	274.3	360.6	11.3,11.3
30	818.5	800.6	810.7	808.7	817.2	800.6	816.0	829.8	20- 30	429.1	789.6	24.7,24.7
40	892.1	873.9	868.5	858.1	869.9	868.6	875.5	876.3	30- 40	507.9	1298	40.6,40.6
50	864.4	856.2	846.1	843.3	870.5	860.7	846.7	839.1	40- 50	683.7	1981	62,62
60	635.8	639.6	636.2	629.9	653.3	640.2	634.7	625.1	50- 60	682.8	2664	83.4,83.4
70	192.8	159.9	96.93	168.7	171.3	196.8	103.9	194.4	60- 70	441.8	3106	97.2,97.2
80	44.83	42.06	18.85	39.56	44.99	44.02	21.89	42.14	70- 80	78.09	3184	99.6,99.6
90	1.461	1.465	1.343	1.444	1.452	1.469	1.312	1.456	80- 90	12.18	3196	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): 1628 lm

%lum = 50.9%

%lamp = 50.9%

Conical surface Flux(120deg): 2664.1 lm

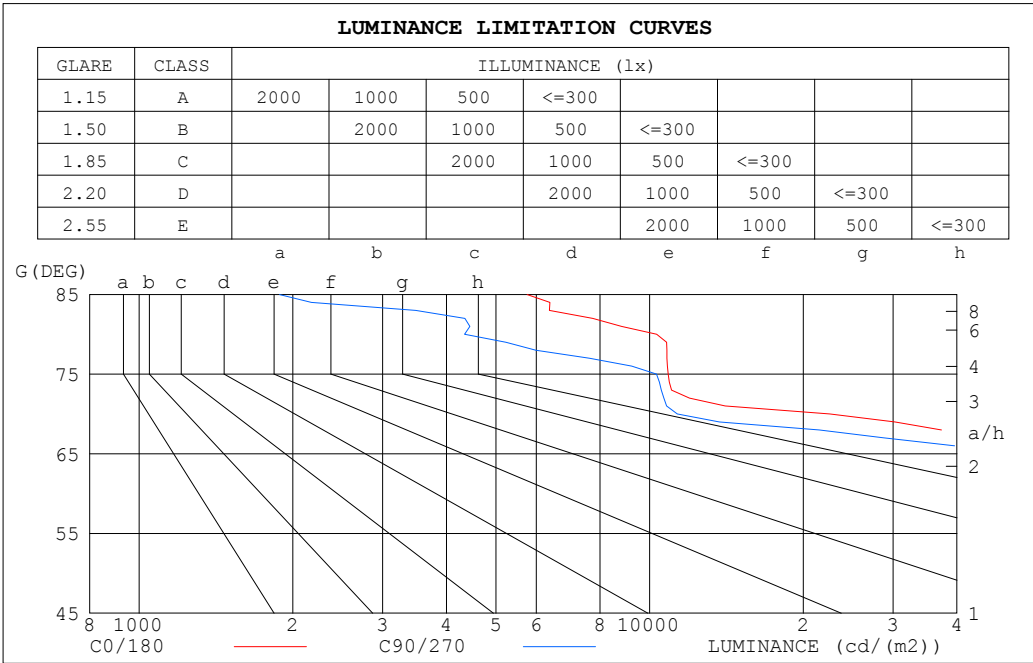
%lum = 83.4%

%lamp = 83.4%

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



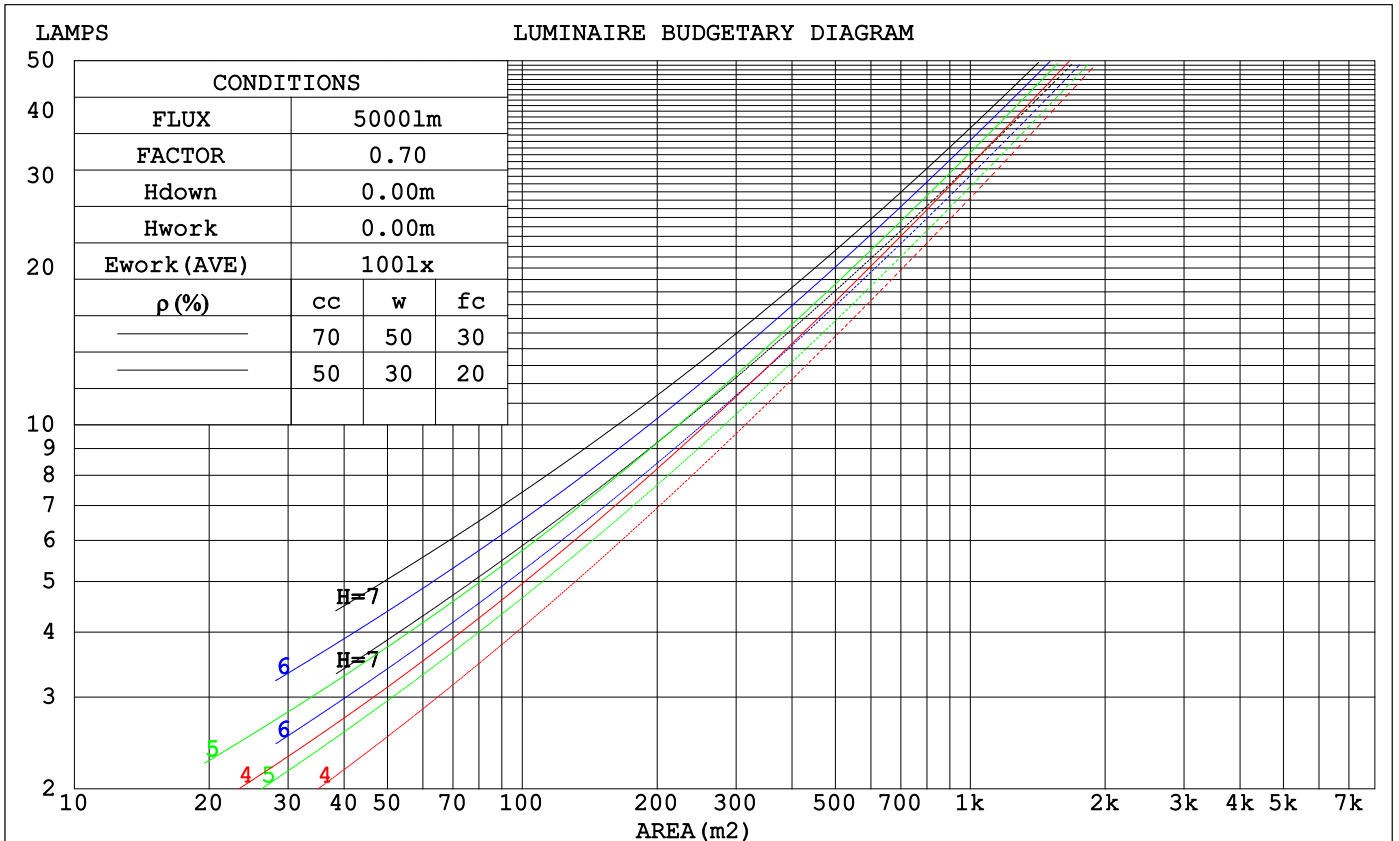
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	5756	1884
80	10327	4341
75	10875	10316
70	22547	11336
65	44535	44827
60	50864	50894
55	54041	53773
50	53791	52655
45	51651	50209

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	.93	.90	.91	.89	.88	.86
2.0	.92	.85	.80	.90	.84	.79	.86	.81	.77	.83	.79	.75	.80	.77	.74	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.68	.63	.70	.66	.62	.60
4.0	.71	.62	.55	.69	.61	.55	.67	.60	.54	.64	.58	.53	.62	.57	.53	.50
5.0	.63	.54	.47	.62	.53	.47	.59	.52	.46	.57	.51	.46	.56	.50	.45	.43
6.0	.56	.47	.40	.55	.46	.40	.53	.46	.40	.51	.45	.39	.50	.44	.39	.37
7.0	.50	.41	.35	.50	.41	.35	.48	.40	.35	.47	.40	.35	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.42	.36	.31	.41	.35	.30	.28
9.0	.42	.33	.28	.41	.33	.28	.40	.33	.27	.39	.32	.27	.38	.32	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.24	.23



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	.283	.161	.051	.276	.158	.050	.263	.151	.048	.251	.145	.046	.240	.139	.045	
2.0	.278	.152	.047	.272	.150	.046	.260	.145	.045	.250	.140	.044	.240	.136	.043	
3.0	.264	.140	.042	.258	.138	.042	.248	.134	.041	.239	.131	.040	.230	.127	.039	
4.0	.247	.128	.038	.242	.127	.037	.233	.124	.037	.225	.121	.036	.217	.118	.036	
5.0	.231	.118	.034	.226	.116	.034	.218	.114	.033	.211	.111	.033	.204	.109	.033	
6.0	.215	.108	.031	.211	.107	.031	.204	.105	.030	.197	.103	.030	.191	.101	.030	
7.0	.201	.099	.028	.198	.098	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.188	.092	.026	.185	.091	.026	.179	.090	.026	.174	.088	.025	.169	.087	.025	
9.0	.177	.085	.024	.174	.085	.024	.169	.083	.024	.164	.082	.023	.159	.081	.023	
10.0	.166	.080	.022	.164	.079	.022	.159	.078	.022	.154	.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	.178	.156	.136	.153	.134	.117	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.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	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.128	.078	.041	.088	.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	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.060	.025	.077	.042	.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	27.4	28.9	27.7	29.1	29.4	27.4	28.9	27.6	29.1	29.3
3H	28.2	29.6	28.5	29.9	30.1	28.0	29.4	28.3	29.6	29.8
4H	28.2	29.5	28.5	29.8	30.0	27.9	29.3	28.2	29.5	29.8
6H	28.1	29.4	28.5	29.6	29.9	27.8	29.1	28.2	29.4	29.6
8H	28.1	29.3	28.4	29.6	29.9	27.8	29.0	28.1	29.3	29.6
12H	28.0	29.2	28.4	29.5	29.8	27.7	28.9	28.1	29.2	29.5
4H 2H	27.9	29.3	28.2	29.5	29.8	27.9	29.2	28.2	29.5	29.8
3H	28.7	29.8	29.0	30.1	30.4	28.5	29.7	28.9	30.0	30.3
4H	28.7	29.7	29.0	30.0	30.4	28.5	29.5	28.9	29.9	30.2
6H	28.7	29.6	29.1	29.9	30.3	28.4	29.3	28.8	29.7	30.1
8H	28.6	29.5	29.1	29.9	30.2	28.4	29.2	28.8	29.6	30.0
12H	28.6	29.4	29.0	29.8	30.2	28.3	29.1	28.8	29.5	29.9
8H 4H	28.6	29.5	29.0	29.8	30.2	28.4	29.3	28.8	29.6	30.0
6H	28.6	29.3	29.1	29.7	30.2	28.4	29.1	28.8	29.5	29.9
8H	28.6	29.2	29.1	29.7	30.1	28.4	29.0	28.8	29.4	29.8
12H	28.6	29.1	29.1	29.6	30.1	28.3	28.9	28.8	29.3	29.8
12H 4H	28.6	29.3	29.0	29.7	30.1	28.4	29.2	28.8	29.6	30.0
6H	28.6	29.2	29.1	29.6	30.1	28.4	29.0	28.8	29.4	29.8
8H	28.6	29.1	29.1	29.6	30.1	28.3	28.9	28.8	29.3	29.8
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.3 / - 0.3					+ 0.5 / - 0.4				
1.5H	+ 0.8 / - 0.8					+ 0.6 / - 1.1				
2.0H	+ 0.5 / - 1.1					+ 0.6 / - 1.3				

CIE Pub.117, 3196 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 4.0)
 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:

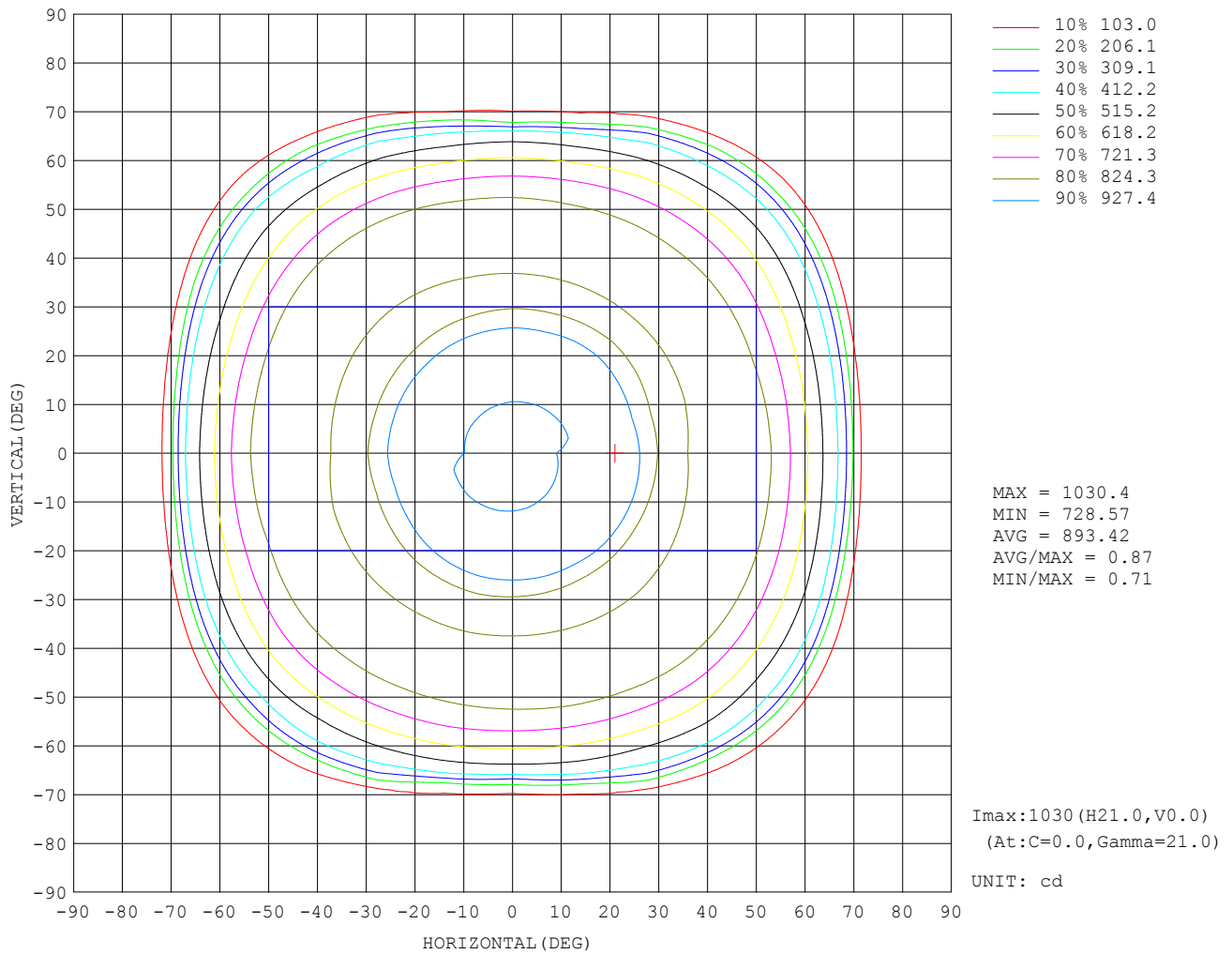
UTILIZATION FACTORS TABLE

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	35	53	42	35	52	41	34	28
0.80	65	53	46	64	53	45	62	52	45	38
1.00	75	64	56	74	63	56	71	65	55	48
1.25	83	72	65	81	72	65	79	70	64	56
1.50	88	78	71	87	77	71	84	76	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	97	91	101	95	90	97	92	88	80
4.00	107	102	97	105	100	96	101	97	93	85
5.00	109	105	101	107	103	99	103	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:

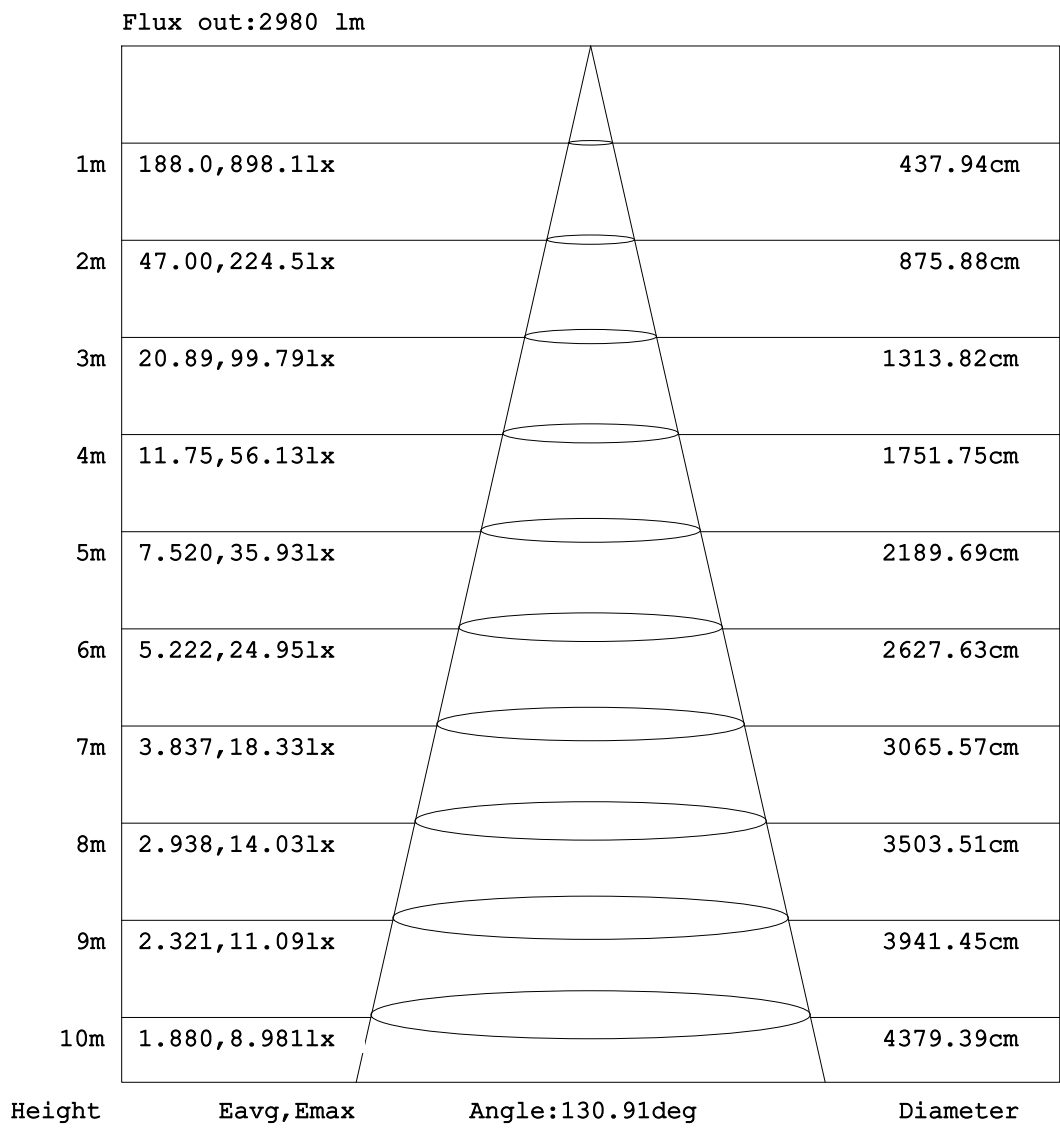
ISOCANDELA DIAGRAM



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

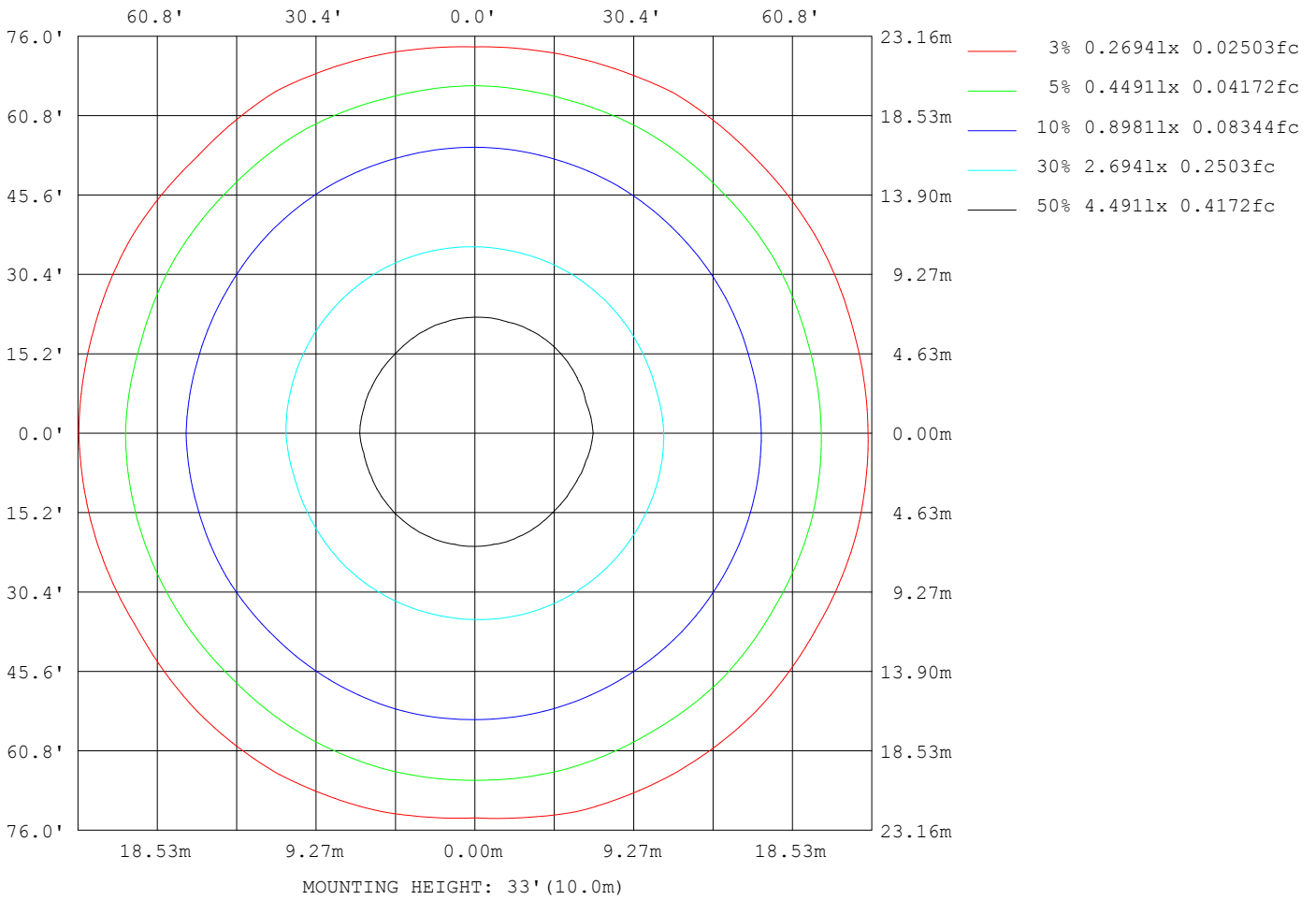


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

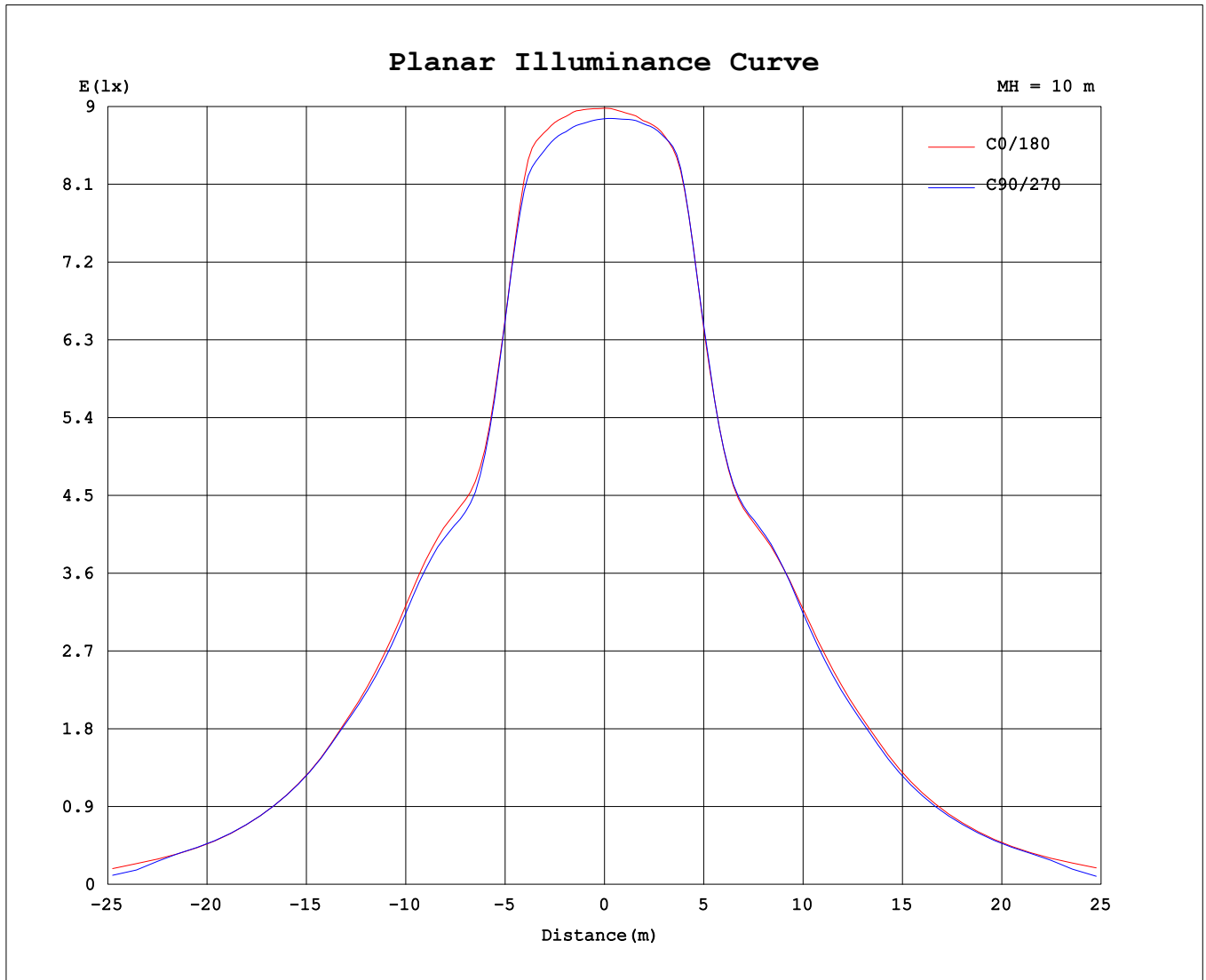
ISOLUX DIAGRAM



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:

