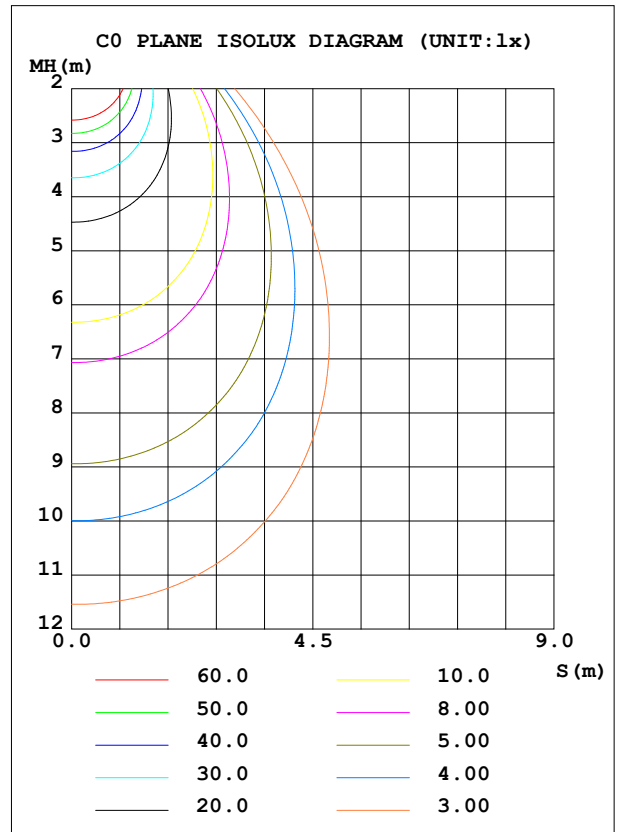
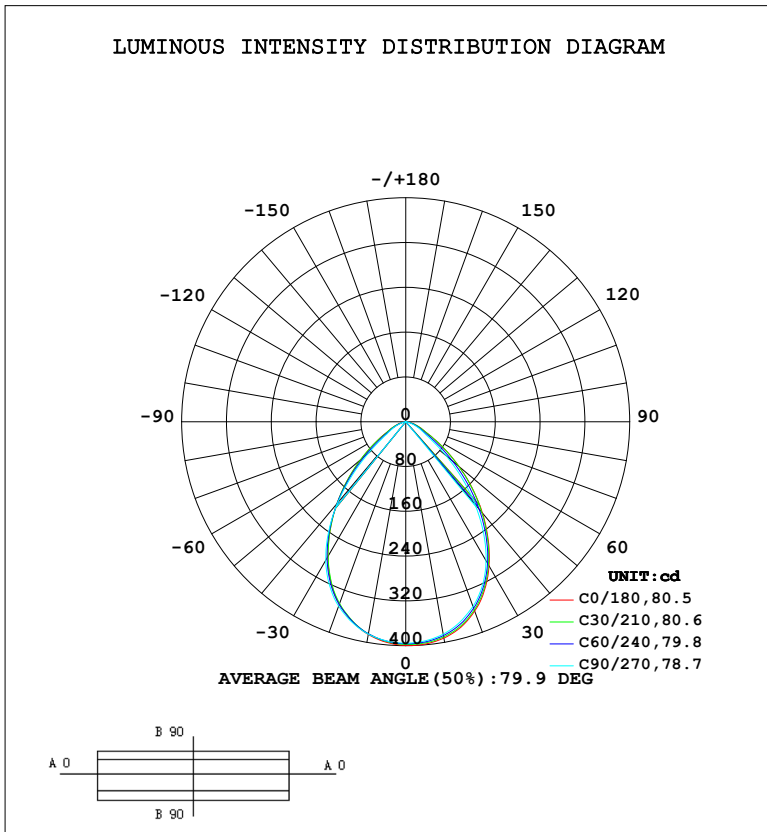


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.12V I:0.0633A P:7.7811W PF:0.5580 Freq:50.00Hz		
Lamp Flux:658.527x1 lm		
NAME: HYD-219C-7W-3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	399.7	S/MH (C0/180)	1.08
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.10
RATED VOLTAGE (V)	--	TOTAL FLUX (lm)	658.53	η UP, DN (C0-180)	0.0, 50.8
NOMINAL FLUX (lm)	658.527	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	--	η down (%)	100.0	CIBSE SHR MAX	1.15



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-16

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	392.3	389.4	385.1	382.5	385.8	383.9	385.1	385.4	0- 10	37.31	37.31	5.67,5.67
20	360.0	357.0	350.9	346.6	346.8	345.1	350.5	352.0	10- 20	104.4	141.7	21.5,21.5
30	297.6	295.5	286.8	282.7	278.2	277.3	285.7	289.8	20- 30	147.7	289.4	43.9,43.9
40	213.2	211.2	192.9	195.0	191.2	190.3	189.4	203.7	30- 40	151.7	441.1	67,67
50	124.3	120.5	94.07	104.1	104.7	101.6	86.47	110.3	40- 50	115.8	556.9	84.6,84.6
60	52.89	49.42	35.01	41.23	42.65	39.50	32.76	43.46	50- 60	61.87	618.8	94,94
70	22.76	20.27	14.16	18.24	18.50	16.71	13.02	19.03	60- 70	27.99	646.8	98.2,98.2
80	7.379	4.125	1.070	3.493	4.634	2.409	0.8853	4.211	70- 80	10.68	657.5	99.8,99.8
90	0.3831	0.0231	0.0052	0.0134	0.1006	0.0671	0.0425	0.0626	80- 90	1.074	658.5	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): 505.48 lm

%lum = 76.8%
 %lamp = 76.8%

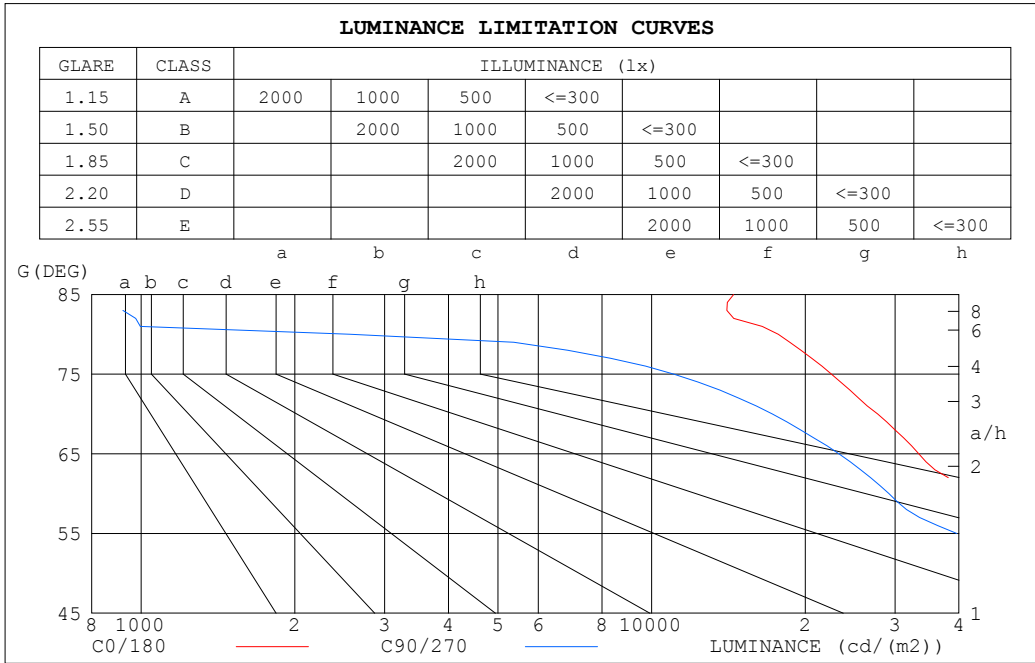
Conical surface Flux(120deg): 618.78 lm

%lum = 94.0%
 %lamp = 94.0%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

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



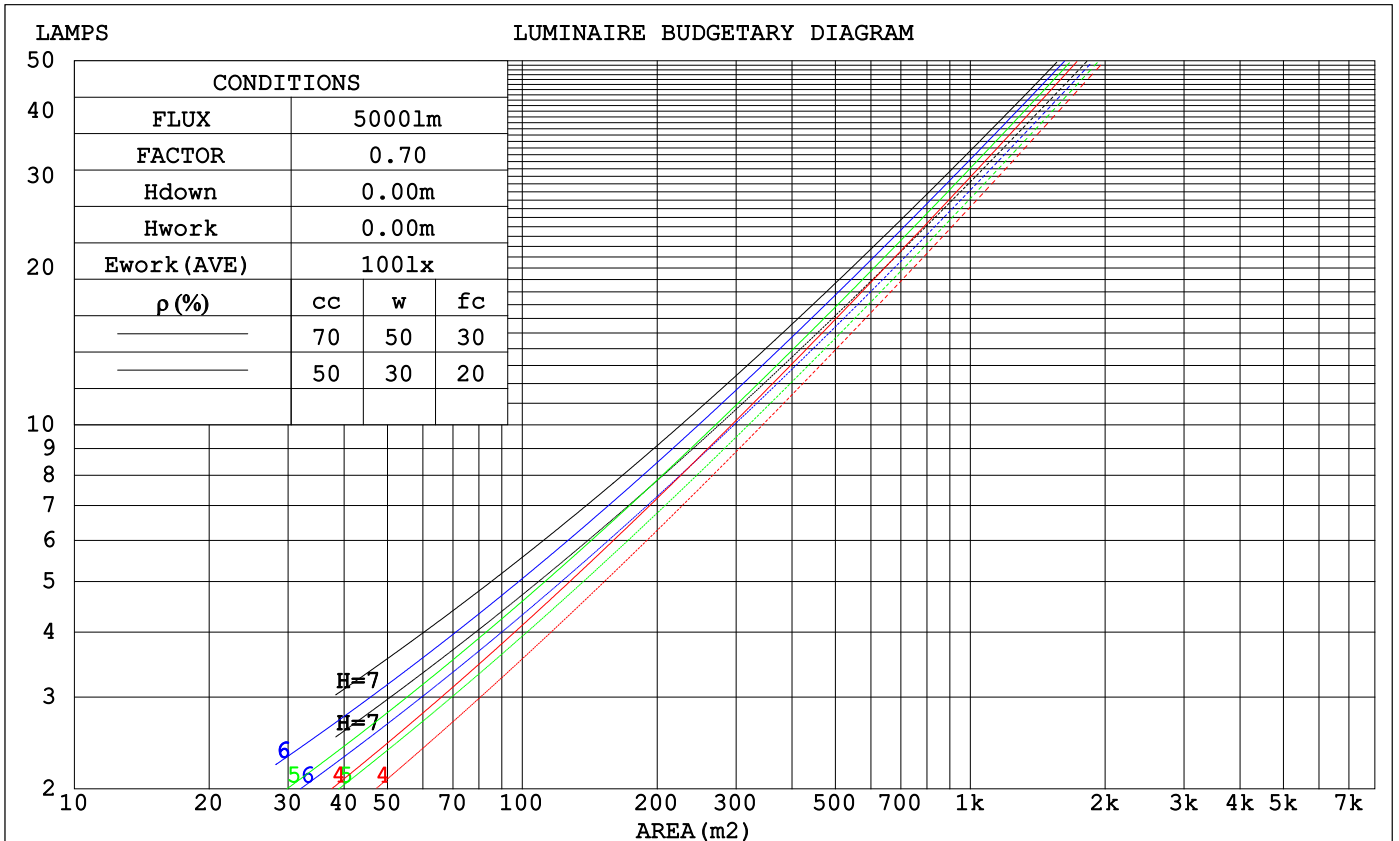
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	14479	699
80	17707	2566
75	22508	11048
70	27727	17247
65	33385	23279
60	44073	29179
55	61268	39650
50	80542	60980
45	99266	83507

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-16

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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.95	.93	.92	.90
2.0	.98	.92	.88	.96	.91	.87	.93	.89	.85	.89	.86	.83	.87	.84	.81	.80
3.0	.88	.82	.77	.87	.81	.76	.84	.79	.75	.82	.77	.74	.79	.76	.73	.71
4.0	.80	.73	.68	.79	.73	.67	.77	.71	.67	.75	.70	.66	.73	.68	.65	.63
5.0	.73	.66	.60	.72	.65	.60	.70	.64	.60	.69	.63	.59	.67	.62	.58	.57
6.0	.67	.60	.54	.66	.59	.54	.65	.58	.54	.63	.57	.53	.62	.57	.53	.51
7.0	.62	.54	.49	.61	.54	.49	.60	.53	.49	.58	.53	.48	.57	.52	.48	.46
8.0	.57	.50	.45	.56	.49	.45	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.52	.46	.41	.51	.45	.41	.50	.45	.40	.49	.44	.40	.39
10.0	.49	.42	.38	.49	.42	.38	.48	.42	.37	.47	.41	.37	.46	.41	.37	.36



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

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
pf _c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.228	.130	.041	.221	.126	.040	.209	.120	.038	.197	.113	.036	.186	.108	.035	
2.0	.222	.122	.037	.216	.119	.037	.205	.114	.035	.195	.109	.034	.186	.105	.033	
3.0	.212	.113	.034	.207	.111	.033	.197	.107	.032	.188	.103	.032	.180	.100	.031	
4.0	.201	.104	.031	.196	.103	.030	.188	.099	.030	.180	.096	.029	.172	.094	.029	
5.0	.189	.097	.028	.186	.095	.028	.178	.093	.027	.171	.090	.027	.165	.088	.026	
6.0	.179	.090	.026	.176	.089	.026	.169	.087	.025	.163	.085	.025	.157	.083	.025	
7.0	.169	.084	.024	.166	.083	.024	.160	.081	.023	.155	.079	.023	.150	.078	.023	
8.0	.160	.078	.022	.158	.078	.022	.152	.076	.022	.147	.075	.022	.143	.073	.021	
9.0	.152	.074	.021	.150	.073	.020	.145	.072	.020	.140	.070	.020	.136	.069	.020	
10.0	.145	.069	.019	.142	.069	.019	.138	.068	.019	.134	.067	.019	.130	.065	.019	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pf _c	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	.175	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.106	.140	.114	.092	.096	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.153	.114	.083	.131	.098	.072	.090	.068	.050	.052	.040	.030	.017	.013	.010	
4.0	.145	.100	.066	.124	.086	.057	.085	.060	.040	.049	.035	.024	.016	.011	.008	
5.0	.137	.089	.053	.118	.077	.046	.081	.054	.033	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.112	.069	.038	.077	.049	.027	.045	.029	.016	.014	.009	.005	
7.0	.124	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.119	.067	.032	.102	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.098	.054	.024	.068	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.024	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

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	26.6	27.8	26.8	28.0	28.2	25.5	26.7	25.7	26.9	27.1
3H	26.9	28.0	27.2	28.3	28.5	25.6	26.8	25.9	27.0	27.2
4H	27.0	28.1	27.3	28.3	28.6	25.6	26.7	25.9	26.9	27.2
6H	27.0	28.0	27.4	28.3	28.6	25.5	26.5	25.8	26.8	27.1
8H	27.0	28.0	27.3	28.3	28.5	25.5	26.5	25.8	26.7	27.0
12H	27.0	27.9	27.3	28.2	28.5	25.4	26.4	25.8	26.6	26.9
4H 2H	26.6	27.7	26.9	27.9	28.2	25.6	26.7	25.9	26.9	27.2
3H	27.1	28.0	27.4	28.3	28.6	25.9	26.8	26.2	27.1	27.4
4H	27.2	28.1	27.6	28.4	28.7	25.9	26.8	26.3	27.1	27.4
6H	27.3	28.1	27.7	28.4	28.8	25.9	26.6	26.2	26.9	27.3
8H	27.3	28.0	27.7	28.4	28.7	25.8	26.5	26.2	26.9	27.2
12H	27.3	27.9	27.7	28.3	28.7	25.8	26.4	26.2	26.8	27.2
8H 4H	27.2	27.9	27.6	28.2	28.6	25.9	26.6	26.3	27.0	27.3
6H	27.3	27.9	27.7	28.3	28.7	25.9	26.4	26.3	26.8	27.3
8H	27.3	27.8	27.8	28.2	28.7	25.8	26.3	26.3	26.7	27.2
12H	27.3	27.7	27.8	28.2	28.6	25.8	26.2	26.3	26.6	27.1
12H 4H	27.1	27.8	27.6	28.1	28.5	25.9	26.5	26.3	26.9	27.3
6H	27.3	27.8	27.7	28.2	28.6	25.8	26.3	26.3	26.8	27.2
8H	27.3	27.7	27.7	28.1	28.6	25.8	26.2	26.3	26.7	27.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.9 / - 1.2					+ 1.3 / - 2.2				
1.5H	+ 0.5 / - 0.7					+ 0.9 / - 1.4				
2.0H	+ 2.1 / - 2.2					+ 2.6 / - 2.6				

CIE Pub.117, 658.5 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.5)
 Area: 0.0024 m2

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

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:

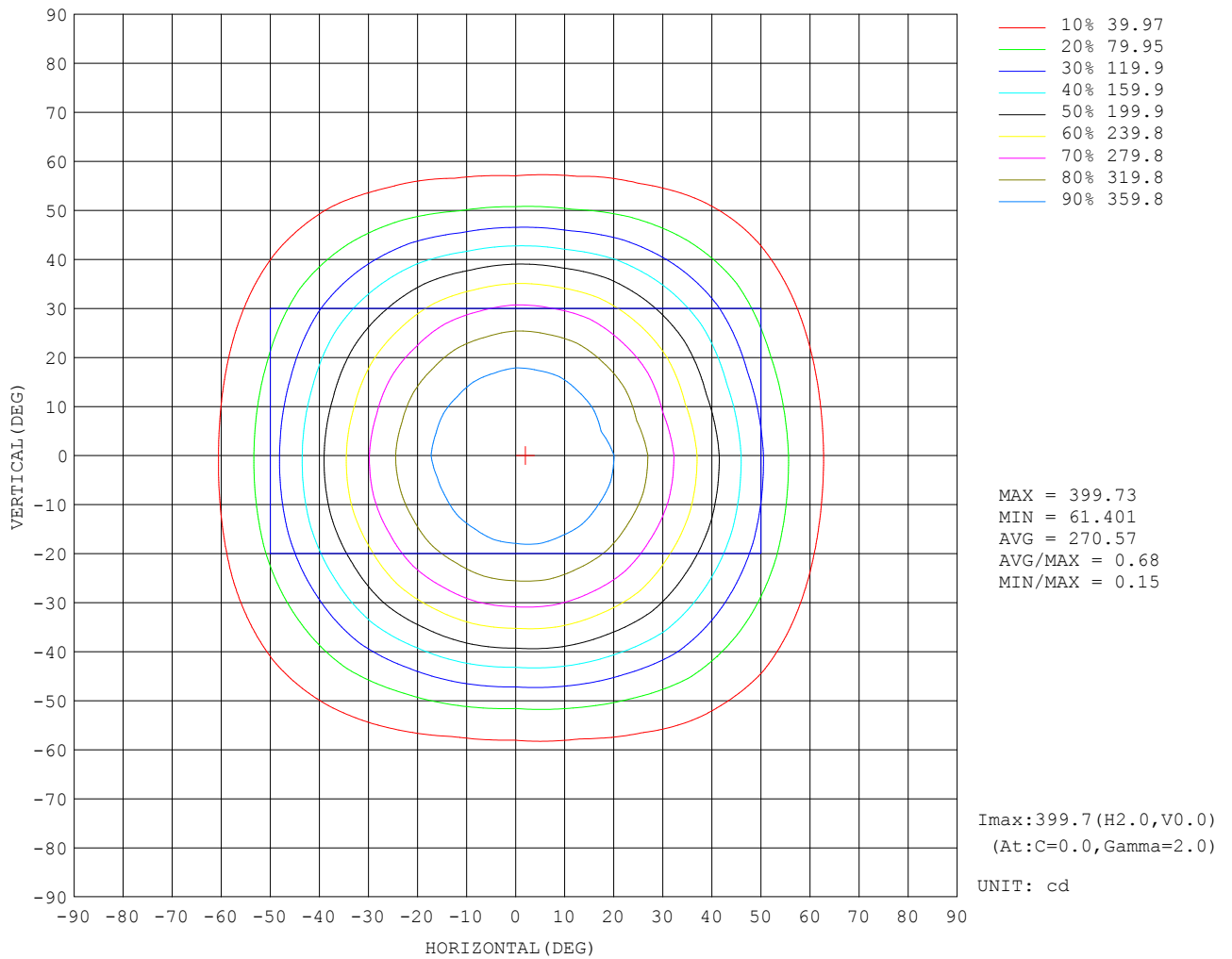
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	71	61	56	70	61	56	69	61	55	50
0.80	80	71	66	79	71	66	78	70	65	60
1.00	88	79	74	87	79	74	85	79	73	68
1.25	94	86	81	92	85	80	90	84	80	74
1.50	98	91	86	96	90	85	94	88	84	78
2.00	103	97	92	101	96	91	98	93	90	83
2.50	105	100	96	104	99	95	100	96	93	86
3.00	108	103	99	106	101	98	102	99	96	88
4.00	111	106	103	108	105	102	104	102	99	91
5.00	112	109	106	110	107	104	106	103	101	93
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: 2023-08-16

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:

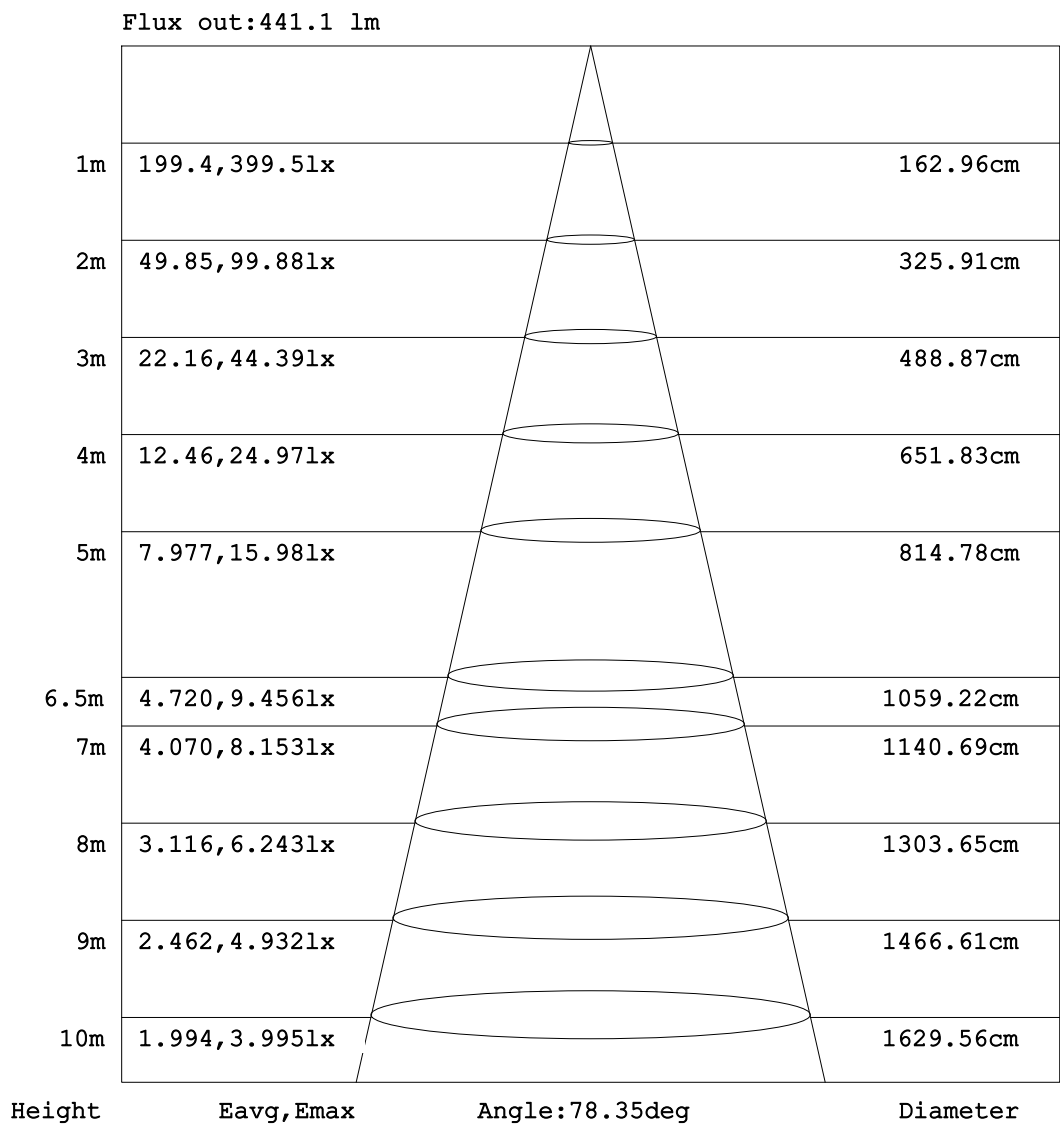
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-16

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

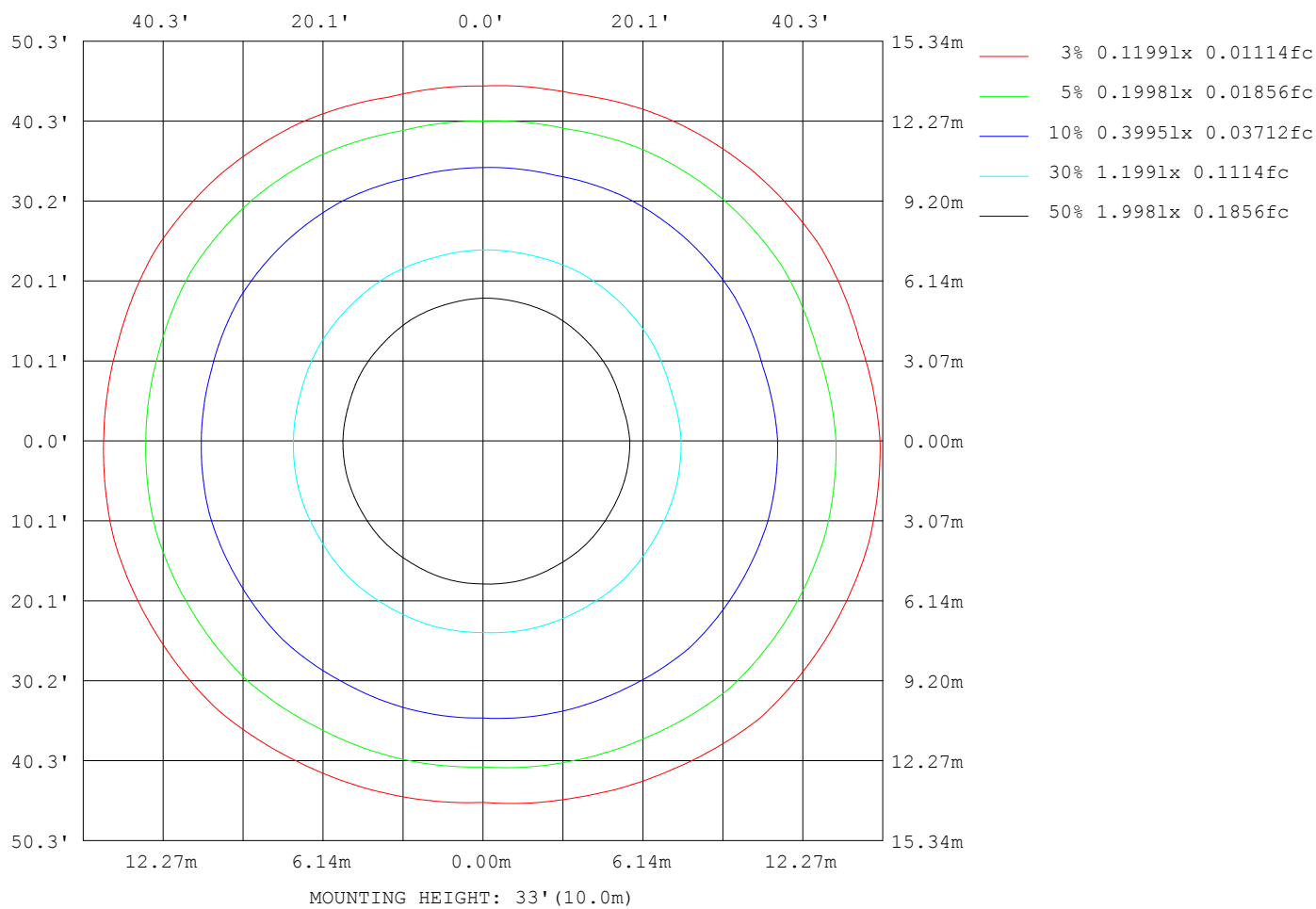


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-16

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:

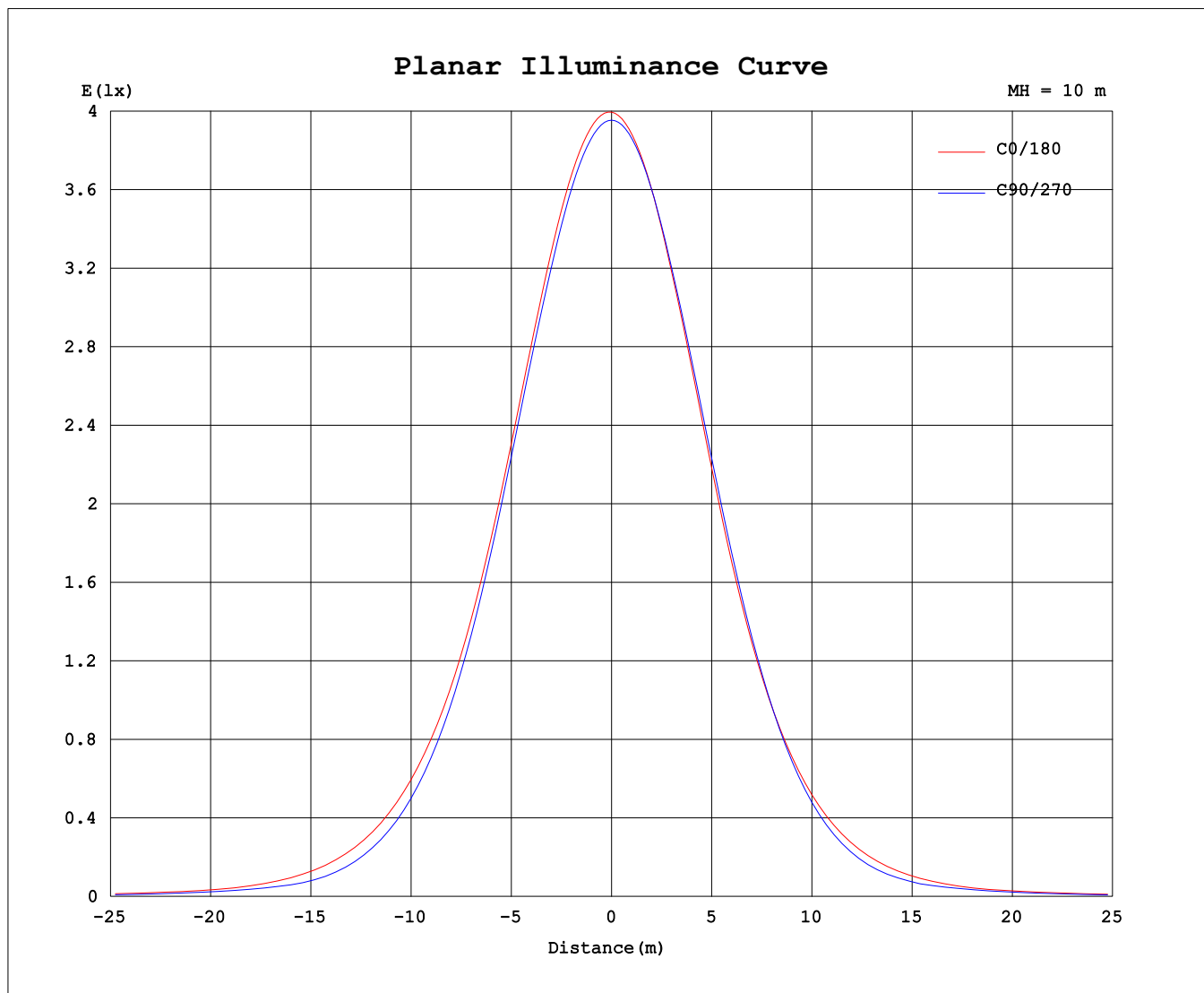
ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operator: DAMIN
 Test Date: 2023-08-16

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:2023-08-16

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:

