

2_5W 24VDC PCB Plate



Light Output Ratio:	100.0%	
Luminaire Power:	0 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.35	fine grid method.

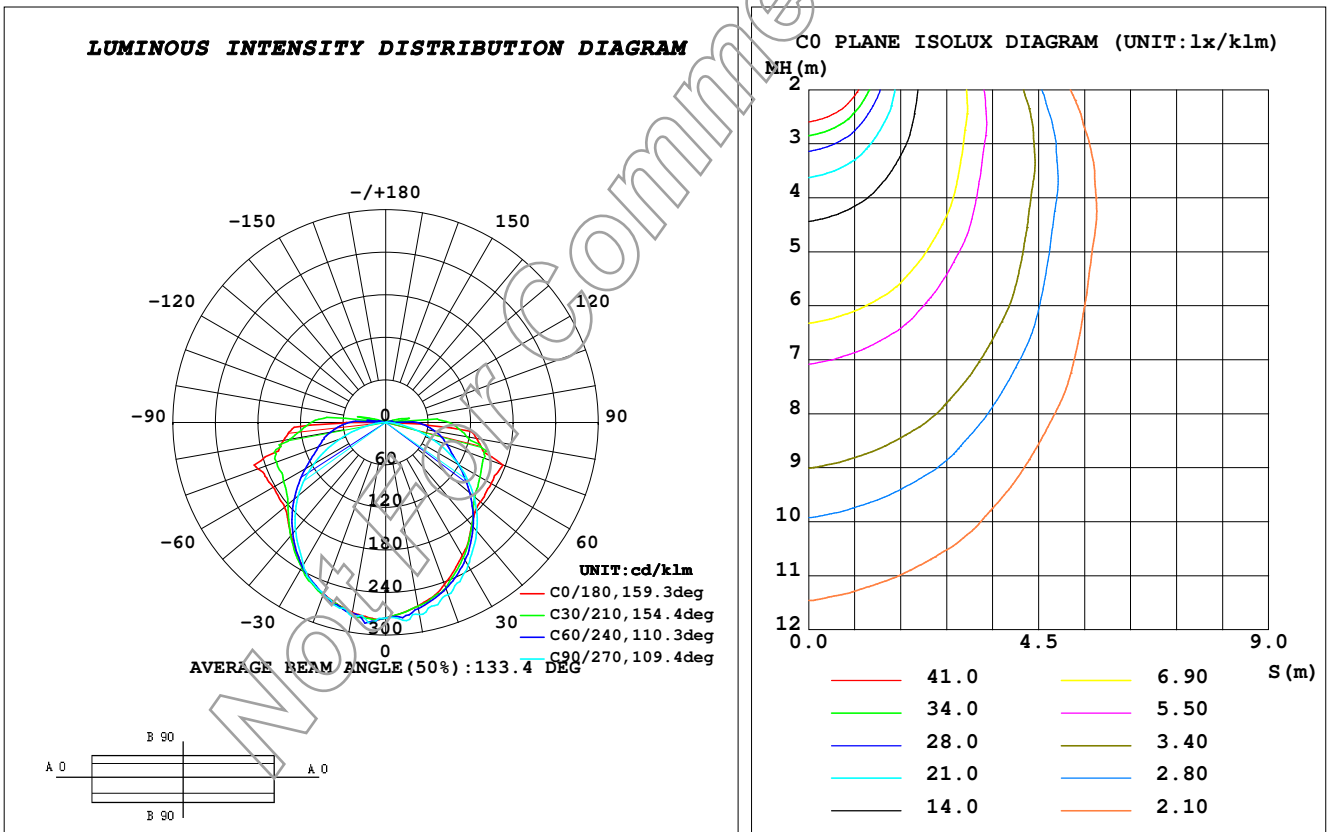
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.1DEG
Operators: A Blignaut
Test Date: 2018-09-27

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
Humidity: 63.0%
Test Distance: 20.000m [K=1.2281]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:0V I:0A P:0W PF:0 Lamp Flux:568.112x1 lm		
NAME: 2.5W 24DC PCB Plate	TYPE: Bulkhead	WEIGHT: 0.2
SPEC.:	DIM.: 70x120x50	SERIAL No.: 24VDC-PCB-Inner
MFR.: Gheko Solar Solutions	SUR.: 300 dia	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	2.5W LED	I _{max} (cd/klm)	287.4	S/MH (C0/180)	1.26
NOMINAL POWER (W)	2.5	LOR (%)	100.0	S/MH (C90/270)	1.24
RATED VOLTAGE (V)	24 DC	TOTAL FLUX (lm/klm)	1000.2	η UP, DN (C0-180)	1.8, 48.3
NOMINAL FLUX (lm)	568.112	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.5, 48.4
LAMPS INSIDE	1	η up (%)	3.3	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	24 DC	η down (%)	96.7	CIBSE SHR MAX	1.35



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Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	#lum, lamp
10	262.7	264.8	275.0	276.5	271.7	272.6	277.9	264.7	0- 10	26.19	26.19	2.62,2.62
20	242.8	248.6	258.4	258.4	257.3	257.4	257.3	247.9	10- 20	74.27	100.5	10,10
30	216.2	220.9	232.6	238.7	234.6	236.0	232.6	221.0	20- 30	111.8	212.3	21.2,21.2
40	189.2	189.8	200.0	208.0	208.0	206.7	197.9	189.4	30- 40	134.3	346.5	34.6,34.7
50	174.4	157.3	162.1	176.4	186.1	173.6	161.1	157.9	40- 50	141.9	488.4	48.8,48.8
60	172.2	134.9	118.9	150.1	183.2	147.0	117.0	139.3	50- 60	140.4	628.8	62.9,62.9
70	175.9	119.4	71.35	137.3	191.8	132.0	69.05	126.1	60- 70	134.8	763.6	76.3,76.4
80	130.3	94.95	26.81	115.0	146.5	109.1	24.93	59.87	70- 80	119.2	882.8	88.3,88.3
90	0	69.59	0.1807	86.38	55.56	81.55	0	72.84	80- 90	84.28	967.1	96.7,96.7
100	0	29.90	0	14.85	0	9.816	0	28.71	90-100	23.21	990.3	99,99
110	0	6.489	0	12.55	0	9.235	0	2.147	100-110	8.887	999.2	99.9,99.9
120	0	0.2900	0	0.2674	0	0.0818	0	0.1013	110-120	0.9815	1000	100,100
130	0	0.0883	0	0.1337	0	0.0565	0	0.0186	120-130	0.0499	1000	100,100
140	0	0.0126	0	0.0383	0	0	0	0	130-140	0.0097	1000	100,100
150	0	0	0	0.0123	0	0	0	0	140-150	0.0017	1000	100,100
160	0	0	0	0	0	0	0	0	150-160	0.0000	1000	100,100
170	0	0	0	0	0	0	0	0	160-170	0	1000	100,100
180	0	0	0	0	0	0	0	0	170-180	0	1000	100,100
DEG	LUMINOUS INTENSITY:cd/klm									UNIT:lm/klm		

Not For Commercial Use

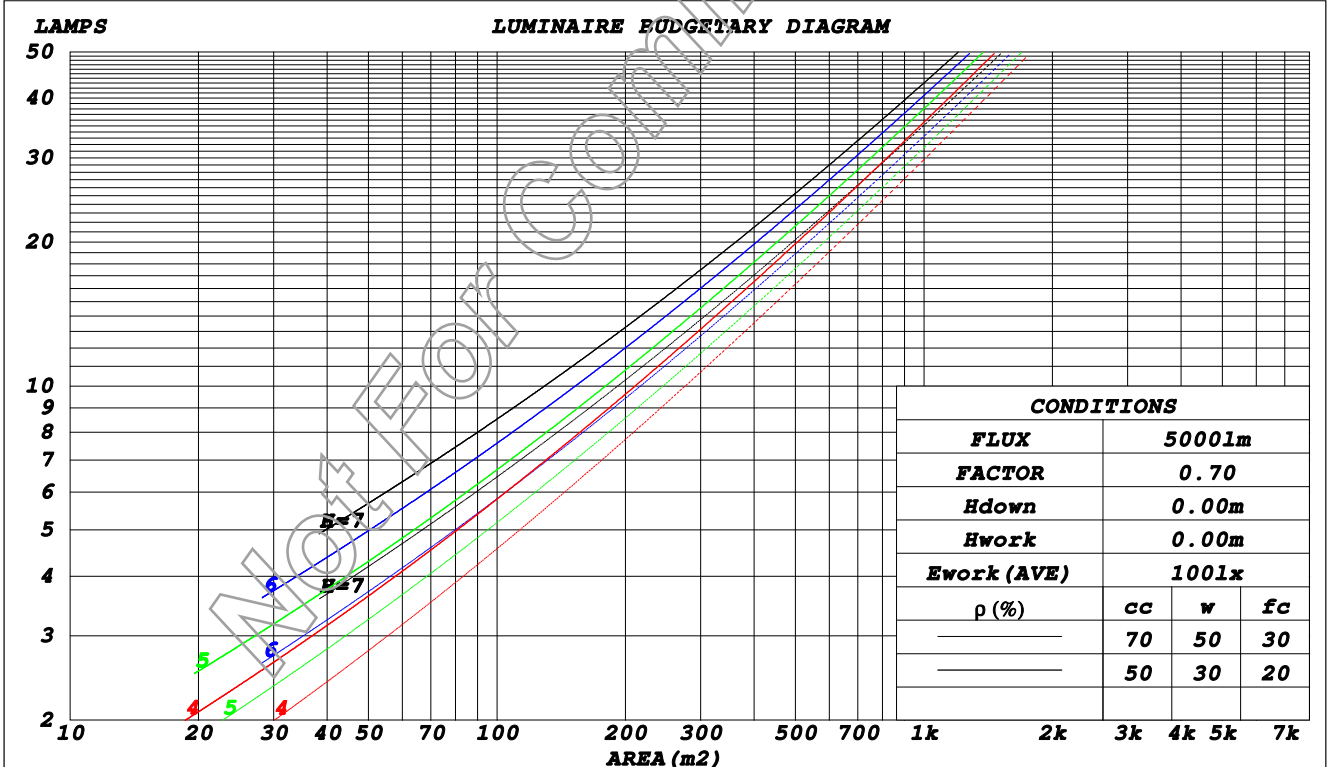
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Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:0V I:0A P:0W PF:0 Lamp Flux:568.112x1 lm		
NAME: 2.5W 24DC PCB Plate	TYPE: Bulkhead	WEIGHT: 0.2
SPEC.:	DIM.: 70x120x50	SERIAL No.: 24VDC-PCB-Inner
MFR.: Gheko Solar Solutions	SUR.: 300 dia	PROTECTION ANGLE:

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	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.97
1.0	.98	.92	.87	.95	.90	.86	.90	.86	.82	.86	.82	.79	.81	.79	.76	.73
2.0	.84	.75	.68	.81	.74	.67	.77	.71	.65	.73	.68	.63	.70	.65	.61	.59
3.0	.72	.63	.55	.71	.62	.55	.67	.59	.53	.64	.57	.52	.60	.55	.51	.48
4.0	.64	.54	.46	.62	.53	.46	.59	.51	.45	.56	.49	.44	.54	.48	.43	.40
5.0	.57	.47	.39	.55	.46	.39	.53	.44	.38	.50	.43	.37	.48	.42	.37	.34
6.0	.51	.41	.34	.50	.40	.34	.47	.39	.33	.45	.38	.33	.43	.37	.32	.30
7.0	.46	.37	.30	.45	.36	.30	.43	.35	.29	.41	.34	.29	.40	.33	.28	.26
8.0	.42	.33	.27	.41	.32	.26	.39	.32	.26	.38	.31	.26	.36	.30	.25	.23
9.0	.38	.30	.24	.38	.29	.24	.36	.29	.23	.35	.28	.23	.34	.27	.23	.21
10.0	.35	.27	.22	.35	.27	.21	.33	.26	.21	.32	.26	.21	.31	.25	.21	.19



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WEC AND CCEC

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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	.406	.231	.073	.398	.227	.072	.382	.219	.070	.358	.212	.068	.355	.206	.066	
2.0	.350	.192	.059	.343	.189	.058	.329	.183	.057	.316	.177	.055	.304	.172	.054	
3.0	.309	.165	.049	.303	.162	.049	.290	.157	.048	.279	.153	.047	.268	.148	.046	
4.0	.277	.144	.042	.271	.142	.042	.260	.138	.041	.250	.134	.041	.240	.131	.040	
5.0	.251	.128	.037	.246	.126	.037	.236	.123	.036	.227	.120	.036	.218	.117	.035	
6.0	.229	.115	.033	.225	.114	.033	.216	.111	.032	.208	.108	.032	.200	.105	.031	
7.0	.211	.104	.030	.207	.103	.029	.199	.101	.029	.192	.098	.029	.185	.096	.028	
8.0	.196	.096	.027	.192	.094	.027	.185	.092	.026	.178	.090	.026	.172	.088	.026	
9.0	.182	.088	.025	.179	.087	.024	.172	.085	.024	.166	.083	.024	.160	.081	.024	
10.0	.170	.082	.023	.167	.081	.023	.161	.079	.022	.156	.077	.022	.150	.076	.022	

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	.216	.216	.216	.184	.184	.184	.126	.126	.126	.072	.072	.072	.023	.023	.023	
1.0	.212	.181	.152	.182	.155	.131	.124	.107	.091	.072	.062	.053	.023	.020	.017	
2.0	.206	.157	.117	.176	.135	.101	.121	.094	.070	.070	.054	.041	.022	.018	.013	
3.0	.198	.140	.095	.170	.121	.082	.116	.084	.057	.067	.049	.034	.022	.016	.011	
4.0	.190	.128	.080	.163	.110	.070	.112	.077	.049	.065	.045	.029	.021	.015	.010	
5.0	.182	.117	.070	.156	.102	.061	.107	.071	.043	.062	.042	.026	.020	.014	.008	
6.0	.174	.109	.063	.149	.095	.055	.103	.066	.039	.060	.039	.023	.019	.013	.008	
7.0	.166	.102	.053	.143	.089	.050	.099	.062	.036	.057	.037	.021	.019	.012	.007	
8.0	.159	.097	.054	.137	.084	.047	.095	.059	.033	.055	.035	.020	.018	.011	.007	
9.0	.153	.092	.050	.131	.080	.044	.091	.056	.031	.053	.033	.019	.017	.011	.006	
10.0	.147	.087	.048	.126	.076	.042	.088	.053	.030	.051	.032	.018	.017	.010	.006	

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 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.285
Humidity: 63.0%
Test Distance: 20.000m [K=1.2281]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:0V I:0A P:0W PF:0 Lamp Flux:568.112x1 lm										
NAME: 2.5W 24DC PCB Plate					TYPE: Bulkhead			WEIGHT: 0.2		
SPEC.:					DIM.: 70x120x50			SERIAL No.: 24VDC-PCB-Inner		
MFR.: Gheko Solar Solutions					SUR.: 300 dia			PROTECTION ANGLE:		
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	17.8	19.4	18.1	19.7	20.0	16.1	17.7	16.4	18.0	18.3
3H	21.2	22.7	21.5	23.0	23.3	17.6	19.1	17.9	19.4	19.7
4H	22.6	24.1	23.0	24.4	24.7	18.1	19.6	18.5	19.9	20.2
6H	24.1	25.5	24.5	25.9	26.2	18.5	19.9	18.9	20.2	20.6
8H	25.0	26.3	25.4	26.7	27.1	18.6	19.9	19.0	20.3	20.7
12H	26.0	27.2	26.4	27.6	28.0	18.7	19.9	19.1	20.3	20.7
4H 2H	18.5	19.9	18.8	20.2	20.6	17.2	18.6	17.5	18.9	19.2
3H	22.1	23.3	22.5	23.7	24.1	18.9	20.2	19.3	20.6	21.0
4H	23.8	24.9	24.2	25.3	25.7	19.7	20.9	20.1	21.3	21.7
6H	25.5	26.6	25.9	27.0	27.4	20.3	21.4	20.7	21.8	22.2
8H	26.5	27.5	27.0	27.9	28.4	20.5	21.5	20.9	21.9	22.4
12H	27.6	28.5	28.1	29.0	29.4	20.6	21.5	21.1	22.0	22.5
8H 4H	24.1	25.1	24.6	25.6	26.0	21.0	22.0	21.5	22.5	22.9
6H	26.2	27.0	26.7	27.5	28.0	22.0	22.9	22.5	23.3	23.8
8H	27.4	28.2	27.9	28.7	29.2	22.4	23.2	22.9	23.7	24.2
12H	28.8	29.5	29.3	30.0	30.5	22.7	23.4	23.3	23.9	24.5
12H 4H	24.2	25.1	24.7	25.6	26.0	21.4	22.3	21.9	22.8	23.3
6H	26.3	27.1	26.8	27.6	28.1	22.7	23.4	23.2	23.9	24.4
8H	27.7	28.3	28.2	28.8	29.4	23.3	24.0	23.8	24.5	25.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.3 / - 0.3					+ 0.1 / - 0.2				
2.0H	+ 0.2 / - 0.3					+ 0.1 / - 0.2				

CIE Pub.117 Corrected 1000 lm Total Lamp Luminous Flux. (8log(F/F0) = 0.0)

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UTILIZATION FACTORS TABLE

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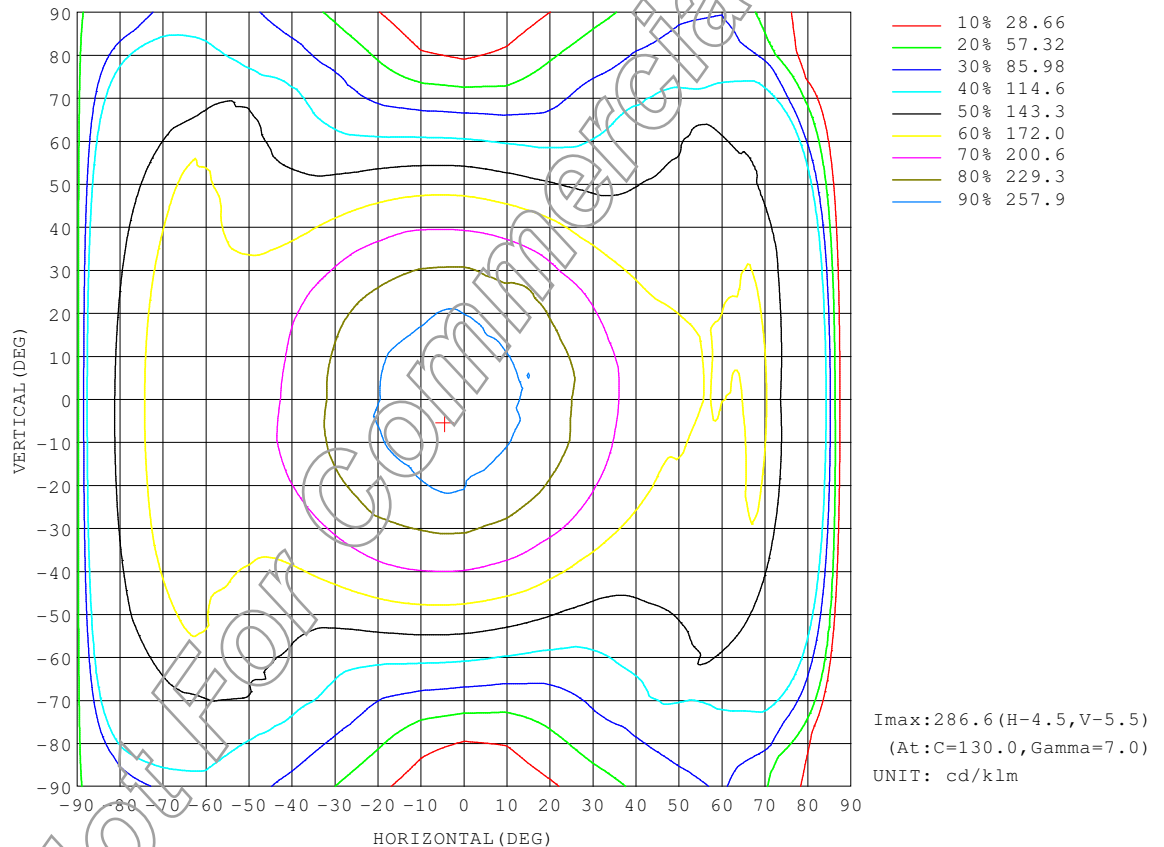
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(R1) \times RCR = 5$									
$k = 0.60$	52	40	32	51	40	32	50	39	32	25
0.80	61	48	40	60	48	40	58	47	40	32
1.00	69	56	48	68	56	48	65	57	47	39
1.25	76	64	55	74	63	55	71	61	54	45
1.50	81	69	61	79	68	60	75	66	59	50
2.00	88	77	69	86	76	68	82	73	67	58
2.50	92	83	75	90	81	74	86	78	72	62
3.00	96	87	80	94	85	79	89	82	76	66
4.00	101	93	87	98	91	85	93	87	82	72
5.00	104	97	91	101	95	90	96	91	86	76
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004 Suspended SHRNOM = 1.25										

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ISOCANDELA DIAGRAM

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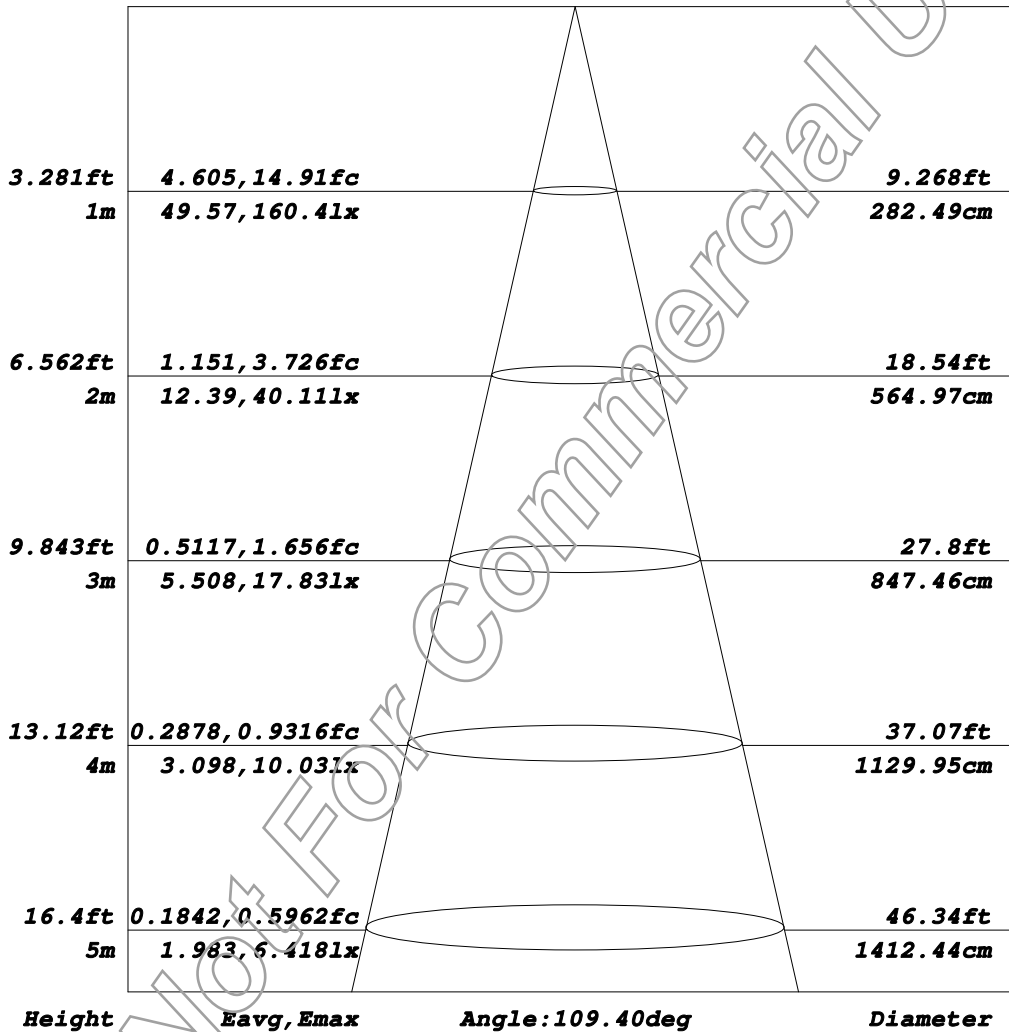
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AAI Figure

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Flux out: 317.6 lm



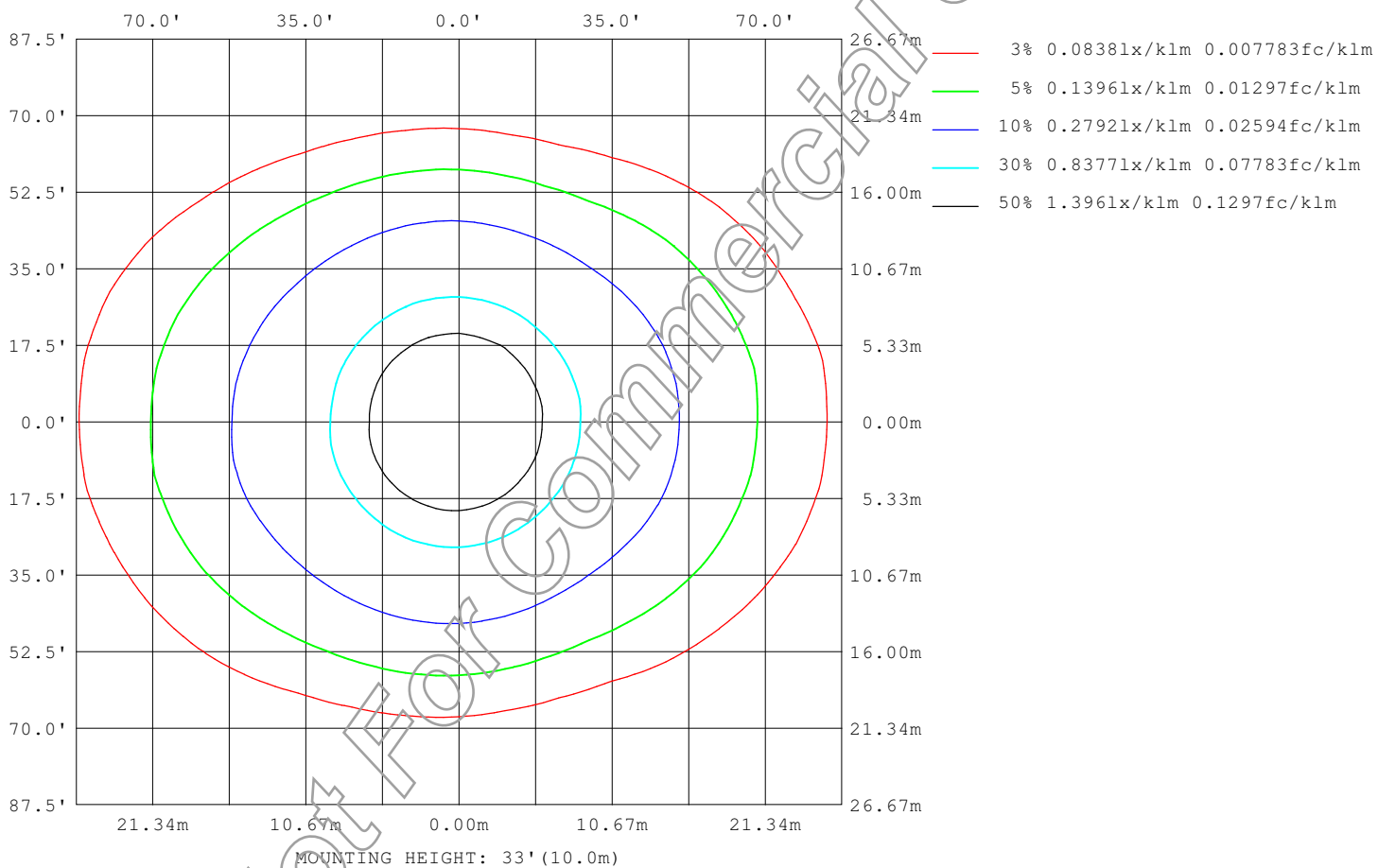
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

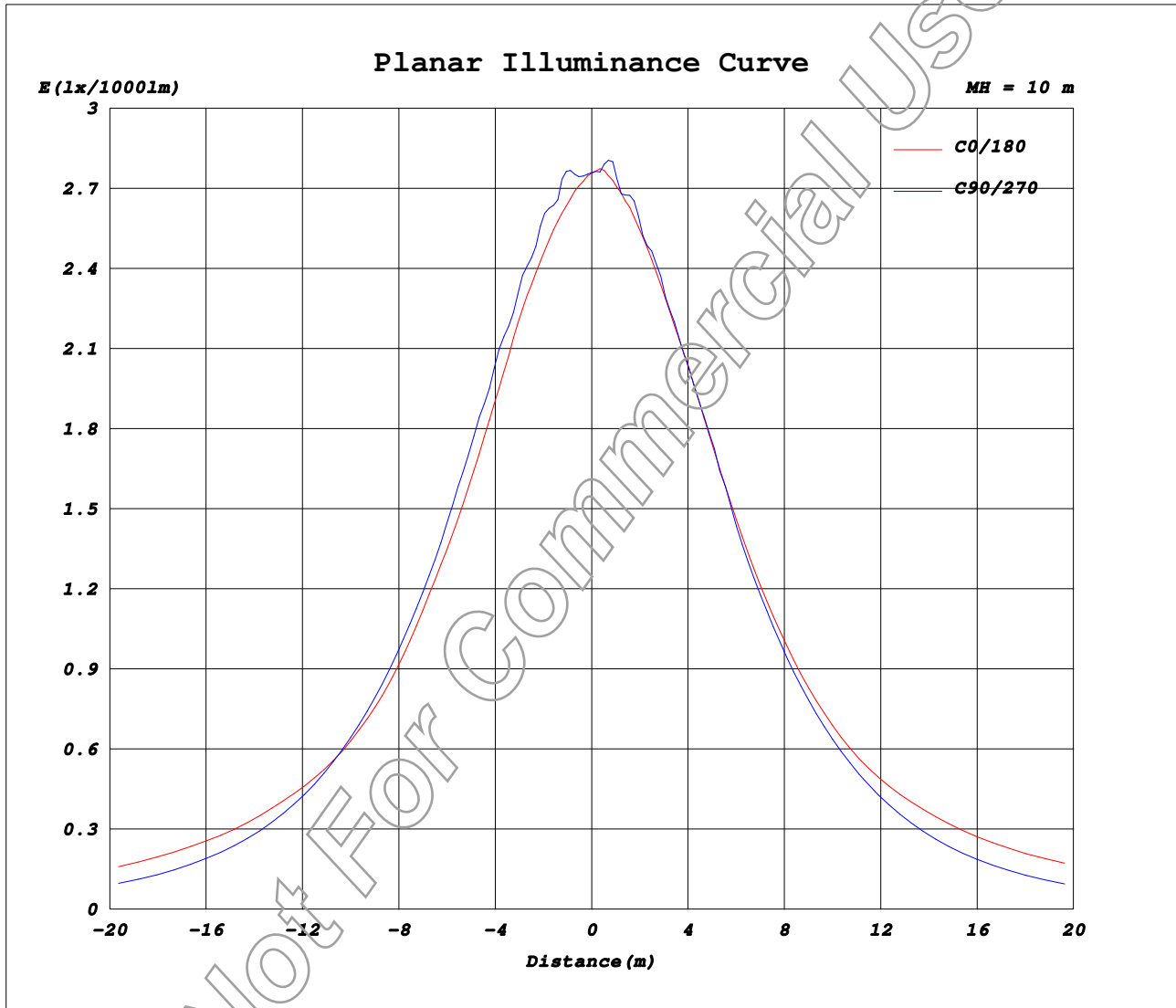
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Planar Illuminance Curve



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