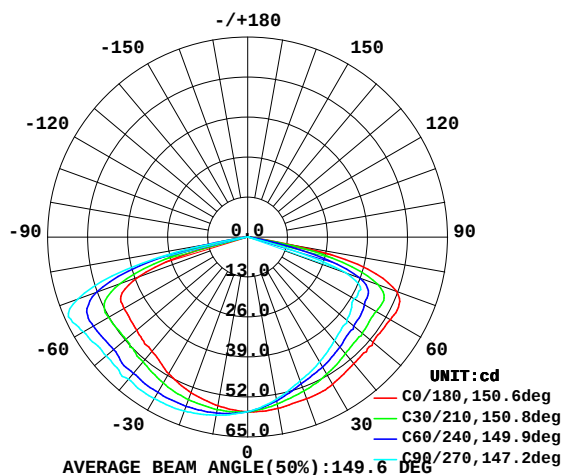


LUMINAIRE PHOTOMETRIC TEST REPORT

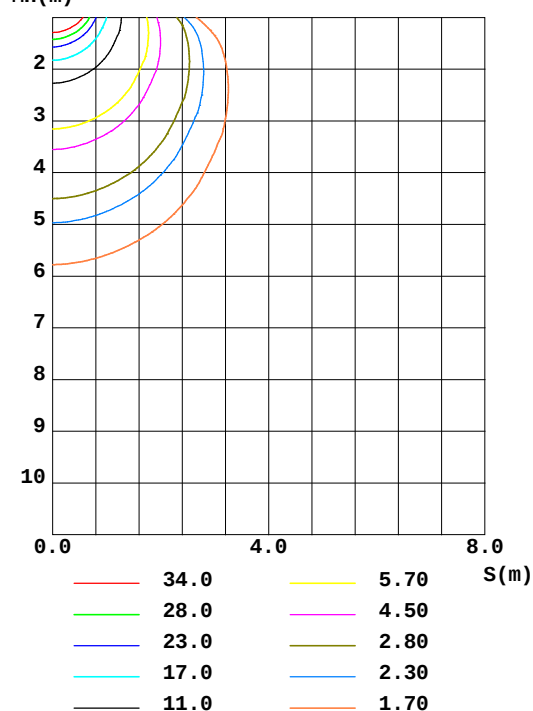
Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm		
NAME: 600-023 (Round Lens)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:1
MFR.:	SUR.:0.0002	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 106.61 lm/W			
MODEL	600-023 (Round Lens)	Imax(cd)	63.85	S/MH(C0/180)	1.35
NOMINAL POWER(W)	2	LOR(%)	100.0	S/MH(C90/270)	1.62
RATED VOLTAGE(V)	4	TOTAL FLUX(lm)	244.85	η UP, DN(C0-180)	0.0, 55.5
NOMINAL FLUX(lm)	244.854	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 44.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	3.8	η down(%)	100.0	CIBSE SHR MAX	1.55

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-01-10

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [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	55.68	57.52	58.72	58.16	56.59	54.62	53.56	54.05	0- 10	5.385	5.385	2.2, 2.2
20	53.89	57.41	60.18	58.78	55.94	52.02	49.76	50.61	10- 20	15.70	21.08	8.61, 8.61
30	51.28	56.59	60.70	59.33	55.26	50.10	46.87	47.08	20- 30	25.02	46.10	18.8, 18.8
40	48.47	55.38	60.30	58.93	53.65	48.07	43.95	43.77	30- 40	32.94	79.04	32.3, 32.3
50	47.10	54.29	60.10	59.23	53.18	46.83	42.13	42.18	40- 50	39.54	118.6	48.4, 48.4
60	46.40	55.08	61.62	60.01	53.67	46.08	40.05	41.48	50- 60	45.33	163.9	66.9, 66.9
70	37.61	48.18	58.69	57.91	51.55	41.75	33.73	33.07	60- 70	49.28	213.2	87.1, 87.1
80	2.228	9.624	8.472	20.64	13.24	6.650	0.4164	2.108	70- 80	29.87	243.1	99.3, 99.3
90	0	0	0	0	0	0	0	0	80- 90	1.790	244.9	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		

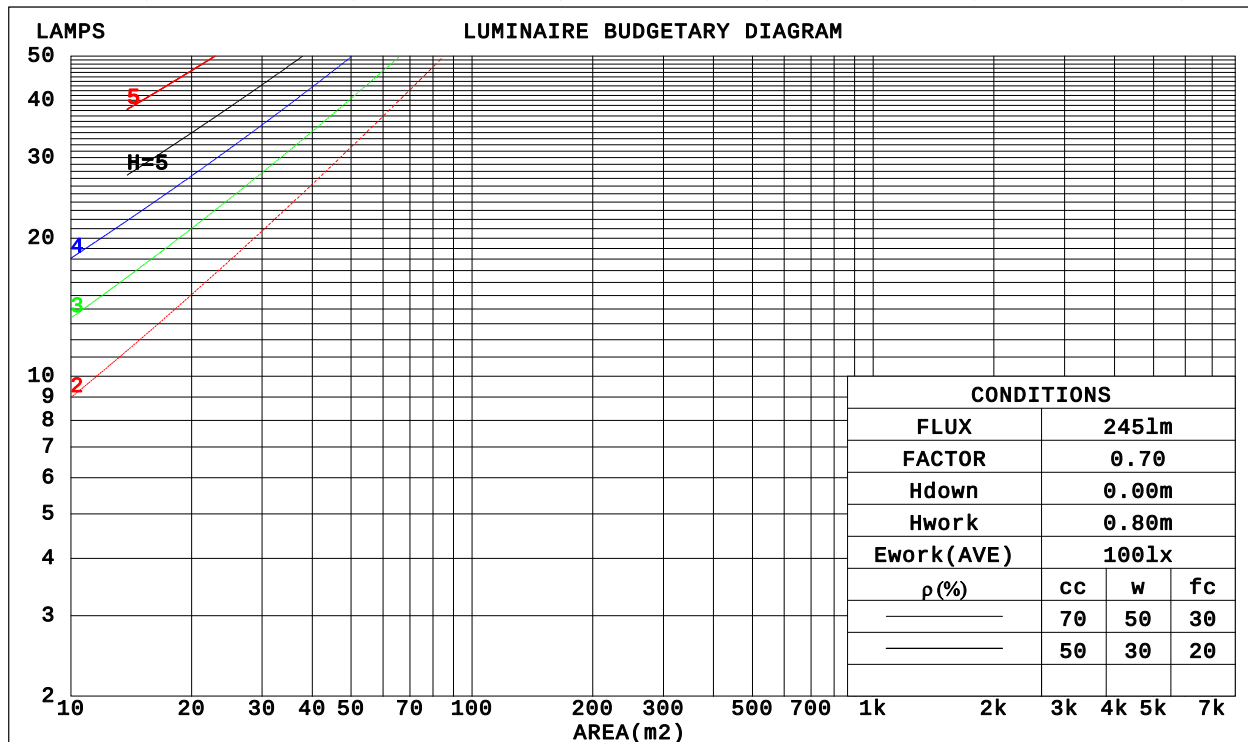
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-01-10

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.443m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm		
NAME: 600-023 (Round Lens)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:1
MFR.:	SUR.:0.0002	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	1.19	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	1.02	.97	.93	.90	.95	.91	.95	.92	.88	.91	.88	.85	.88	.85	.83	.81
2.0	.86	.78	.72	.84	.77	.71	.81	.74	.69	.77	.72	.68	.74	.70	.66	.64
3.0	.74	.65	.57	.72	.64	.57	.69	.62	.56	.66	.60	.54	.64	.58	.53	.51
4.0	.64	.54	.47	.63	.53	.46	.60	.52	.46	.58	.51	.45	.55	.49	.44	.42
5.0	.56	.46	.39	.55	.46	.39	.53	.45	.38	.51	.44	.38	.49	.42	.37	.35
6.0	.50	.40	.33	.49	.40	.33	.47	.39	.33	.45	.38	.32	.44	.37	.32	.30
7.0	.45	.35	.29	.44	.35	.29	.43	.34	.28	.41	.34	.28	.40	.33	.28	.26
8.0	.41	.32	.25	.40	.31	.25	.39	.31	.25	.37	.30	.25	.36	.29	.25	.22
9.0	.37	.28	.22	.37	.28	.22	.35	.28	.22	.34	.27	.22	.33	.27	.22	.20
10.0	.34	.26	.20	.34	.25	.20	.33	.25	.20	.32	.25	.20	.31	.24	.20	.18



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-01-10

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.443m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm					
NAME: 600-023 (Round Lens)			TYPE:		WEIGHT:
DIM.:			SPEC.:		SERIAL No.:1
MFR.:			SUR.:0.0002		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 Wall Exitance Coefficients(WEC)															
0.0																
1.0	.349	.198	.063	.342	.195	.062	.328	.188	.060	.316	.182	.058	.304	.176	.057	
2.0	.332	.182	.056	.326	.179	.055	.314	.174	.054	.303	.170	.053	.292	.165	.052	
3.0	.305	.162	.049	.300	.160	.048	.289	.157	.048	.279	.153	.047	.270	.149	.046	
4.0	.279	.145	.043	.274	.143	.042	.264	.140	.042	.255	.137	.041	.247	.134	.041	
5.0	.255	.130	.038	.250	.129	.037	.242	.126	.037	.234	.123	.037	.226	.121	.036	
6.0	.234	.117	.034	.230	.116	.033	.222	.114	.033	.215	.112	.033	.209	.110	.033	
7.0	.216	.107	.030	.212	.106	.030	.206	.104	.030	.199	.102	.030	.193	.100	.030	
8.0	.200	.098	.027	.197	.097	.027	.191	.095	.027	.185	.094	.027	.180	.092	.027	
9.0	.186	.090	.025	.183	.089	.025	.178	.088	.025	.173	.087	.025	.168	.085	.025	
10.0	.174	.083	.023	.172	.083	.023	.167	.082	.023	.162	.080	.023	.158	.079	.023	

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	.183	.156	.131	.157	.134	.113	.107	.092	.078	.062	.053	.045	.020	.017	.015	
2.0	.178	.132	.093	.152	.113	.080	.104	.078	.056	.060	.046	.033	.019	.015	.011	
3.0	.171	.115	.069	.147	.099	.060	.101	.069	.042	.058	.040	.025	.019	.013	.008	
4.0	.164	.102	.054	.141	.088	.047	.097	.061	.033	.056	.036	.020	.018	.012	.006	
5.0	.157	.092	.044	.135	.079	.038	.093	.055	.027	.054	.032	.016	.017	.011	.005	
6.0	.149	.083	.036	.128	.072	.032	.088	.051	.022	.051	.030	.013	.017	.010	.004	
7.0	.142	.077	.031	.122	.066	.027	.084	.047	.019	.049	.027	.011	.016	.009	.004	
8.0	.135	.071	.027	.116	.061	.023	.080	.043	.017	.047	.025	.010	.015	.008	.003	
9.0	.128	.066	.024	.111	.057	.021	.077	.040	.015	.045	.024	.009	.014	.008	.003	
10.0	.122	.062	.021	.105	.053	.019	.073	.038	.013	.043	.022	.008	.014	.007	.003	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-01-10

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm											
NAME: 600-023 (Round Lens)					TYPE:			WEIGHT:			
DIM.:					SPEC.:			SERIAL No.:1			
MFR.:					SUR.:0.0002			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	34.8	36.5	35.1	36.7	37.0	36.0	37.7	36.3	37.9	38.1	
	3H	37.4	39.0	37.7	39.2	39.5	39.2	40.7	39.5	41.0	41.2
	4H	38.0	39.5	38.3	39.8	40.0	40.3	41.8	40.6	42.0	42.3
	6H	38.0	39.4	38.3	39.7	40.0	40.6	42.0	40.9	42.3	42.6
	8H	37.9	39.3	38.3	39.6	39.9	40.5	41.9	40.9	42.2	42.5
	12H	37.9	39.2	38.2	39.5	39.8	40.5	41.8	40.9	42.1	42.4
4H	2H	36.1	37.6	36.5	37.9	38.2	36.9	38.4	37.3	38.7	39.0
	3H	38.7	40.0	39.1	40.3	40.7	40.1	41.5	40.5	41.8	42.1
	4H	39.4	40.6	39.8	40.9	41.3	41.3	42.5	41.7	42.9	43.2
	6H	39.4	40.5	39.8	40.9	41.2	41.7	42.8	42.1	43.1	43.5
	8H	39.4	40.4	39.8	40.8	41.1	41.6	42.7	42.1	43.0	43.4
	12H	39.3	40.3	39.8	40.7	41.1	41.6	42.5	42.0	42.9	43.3
8H	4H	39.8	40.9	40.3	41.2	41.6	41.5	42.5	42.0	42.9	43.3
	6H	40.0	40.8	40.4	41.2	41.6	41.9	42.8	42.4	43.2	43.6
	8H	39.9	40.7	40.4	41.1	41.6	41.9	42.7	42.4	43.1	43.5
	12H	39.9	40.5	40.4	41.0	41.5	41.9	42.5	42.4	43.0	43.5
12H	4H	39.8	40.8	40.3	41.2	41.6	41.5	42.4	41.9	42.8	43.2
	6H	40.0	40.7	40.4	41.1	41.6	41.9	42.7	42.4	43.1	43.5
	8H	39.9	40.6	40.4	41.0	41.5	41.9	42.5	42.4	43.0	43.5
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.4					+ 0.1 / - 0.2					
2.0H	+ 0.3 / - 0.6					+ 0.1 / - 0.2					

CIE Pub.117 Corrected 244.9 lm Total Lamp Luminous Flux.(8log(F/F0) = -4.9)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-01-10

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm		
NAME: 600-023 (Round Lens)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:1
MFR.:	SUR.:0.0002	PROTECTION ANGLE:

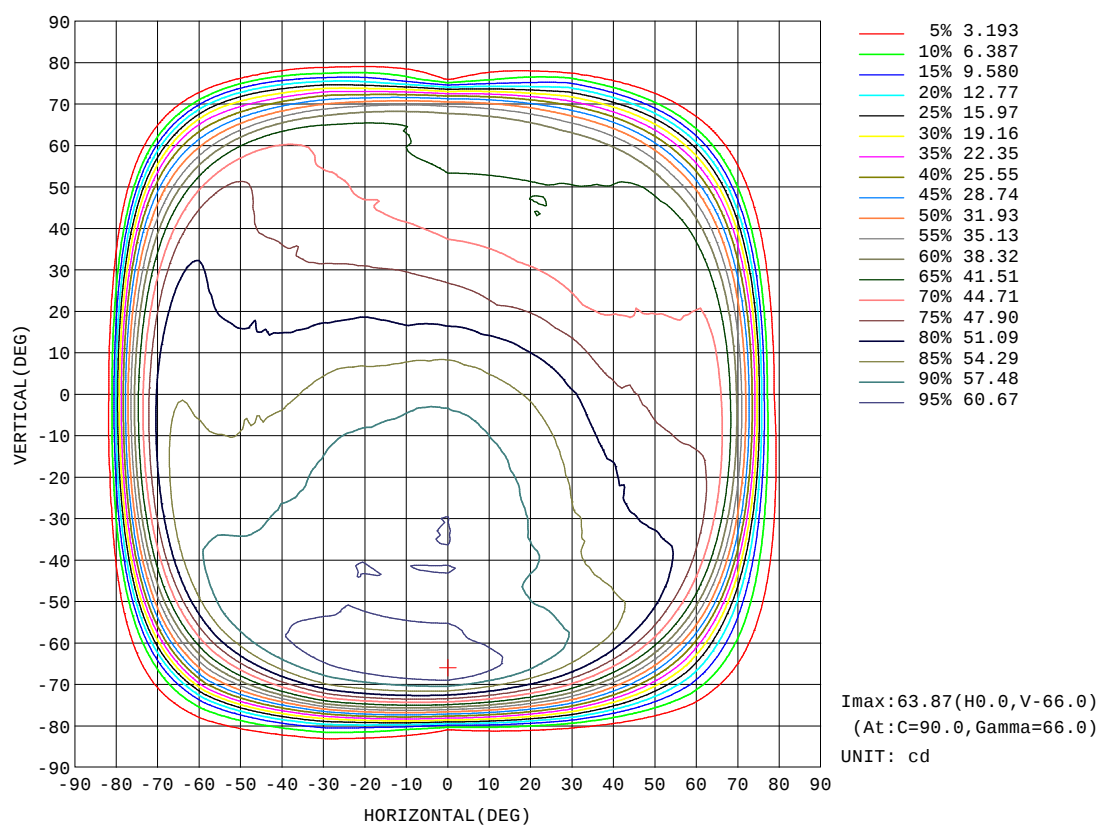
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	51	38	31	50	38	31	49	38	30	23
0.80	61	48	39	60	47	39	58	46	39	31
1.00	69	56	48	68	56	48	65	58	47	39
1.25	77	64	56	75	64	56	72	62	55	47
1.50	82	71	62	80	70	62	77	68	61	52
2.00	90	80	73	88	79	72	85	77	70	62
2.50	95	86	79	93	85	78	89	82	76	67
3.00	99	91	85	97	90	84	93	87	82	72
4.00	104	98	92	102	96	91	97	93	88	79
5.00	107	102	97	105	100	96	100	96	93	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-01-10

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm		
NAME: 600-023 (Round Lens)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:1
MFR.:	SUR.:0.0002	PROTECTION ANGLE:

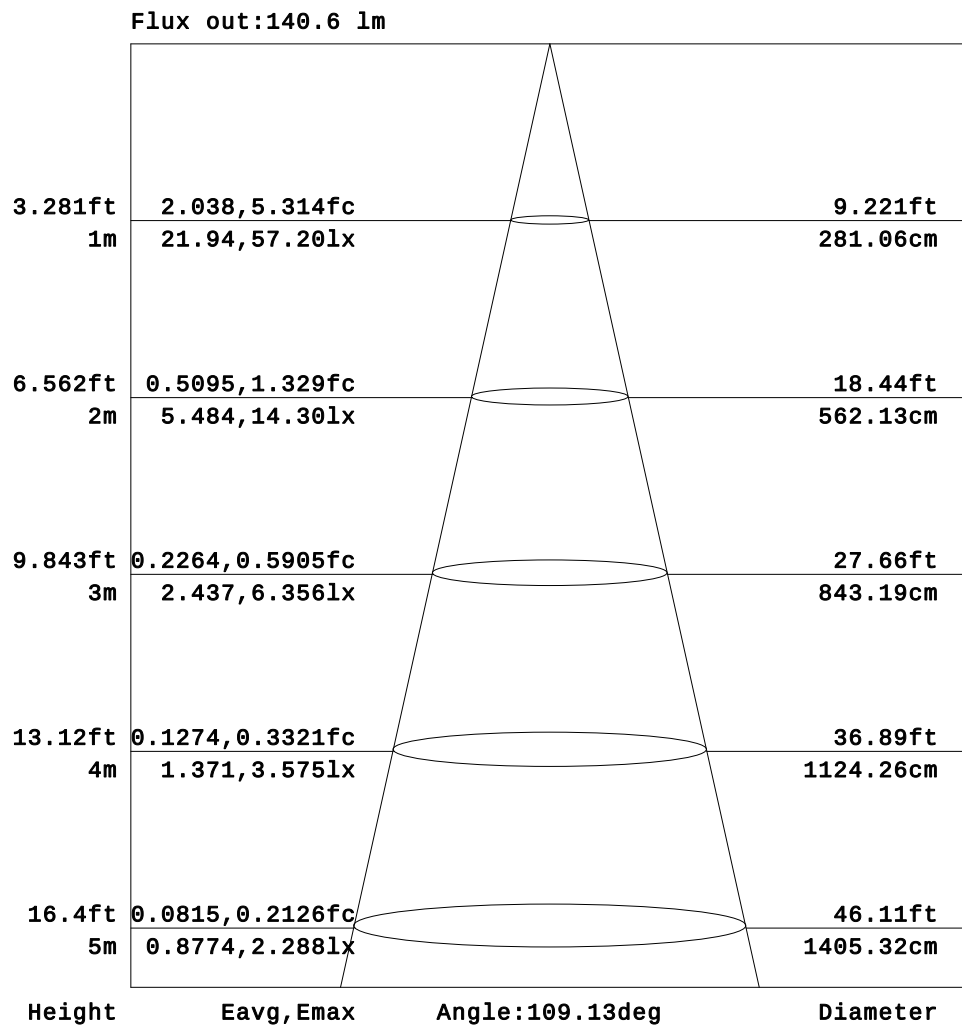


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-01-10

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.443m [K=1.0000]
Remarks:

AAI Figure

Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm		
NAME: 600-023 (Round Lens)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:1
MFR.:	SUR.:0.0002	PROTECTION ANGLE:



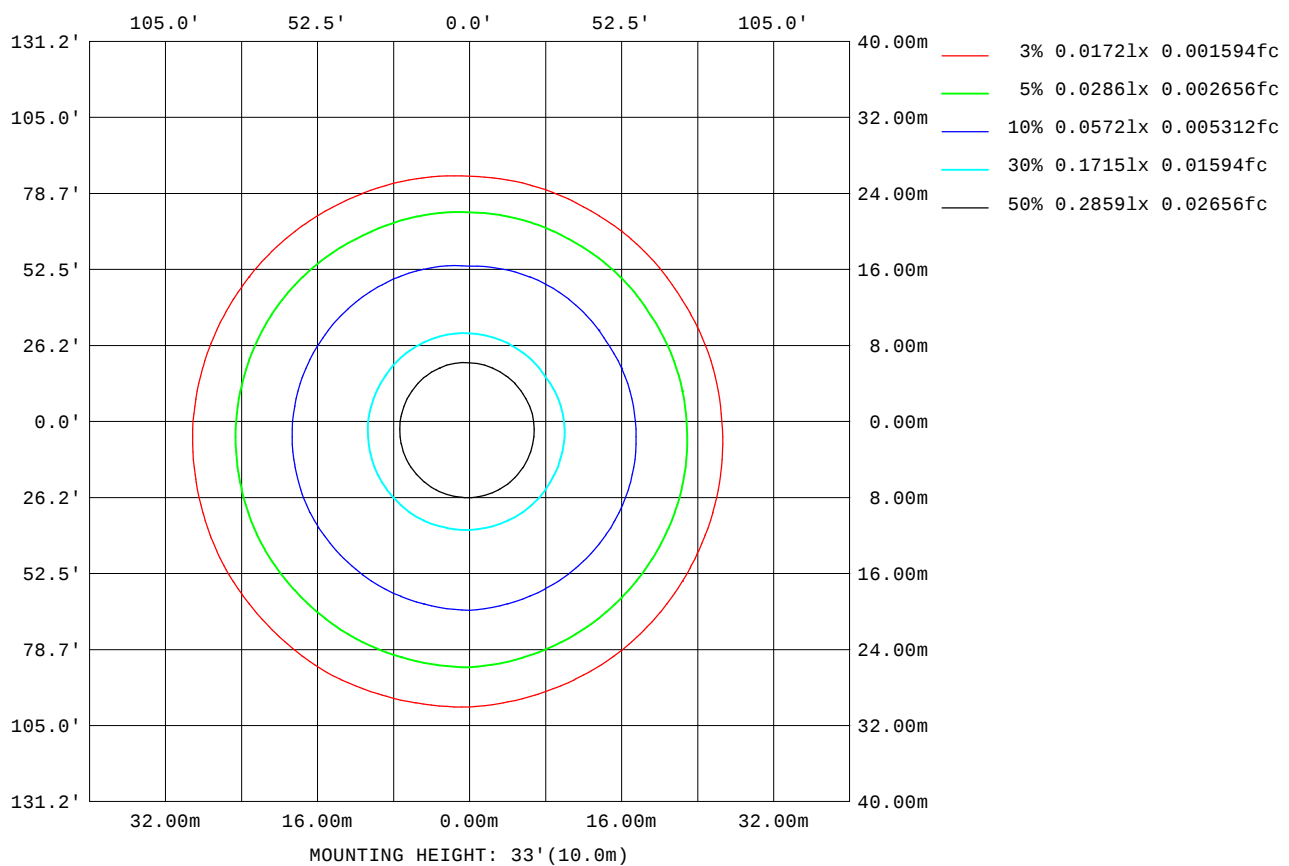
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-01-10

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.443m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

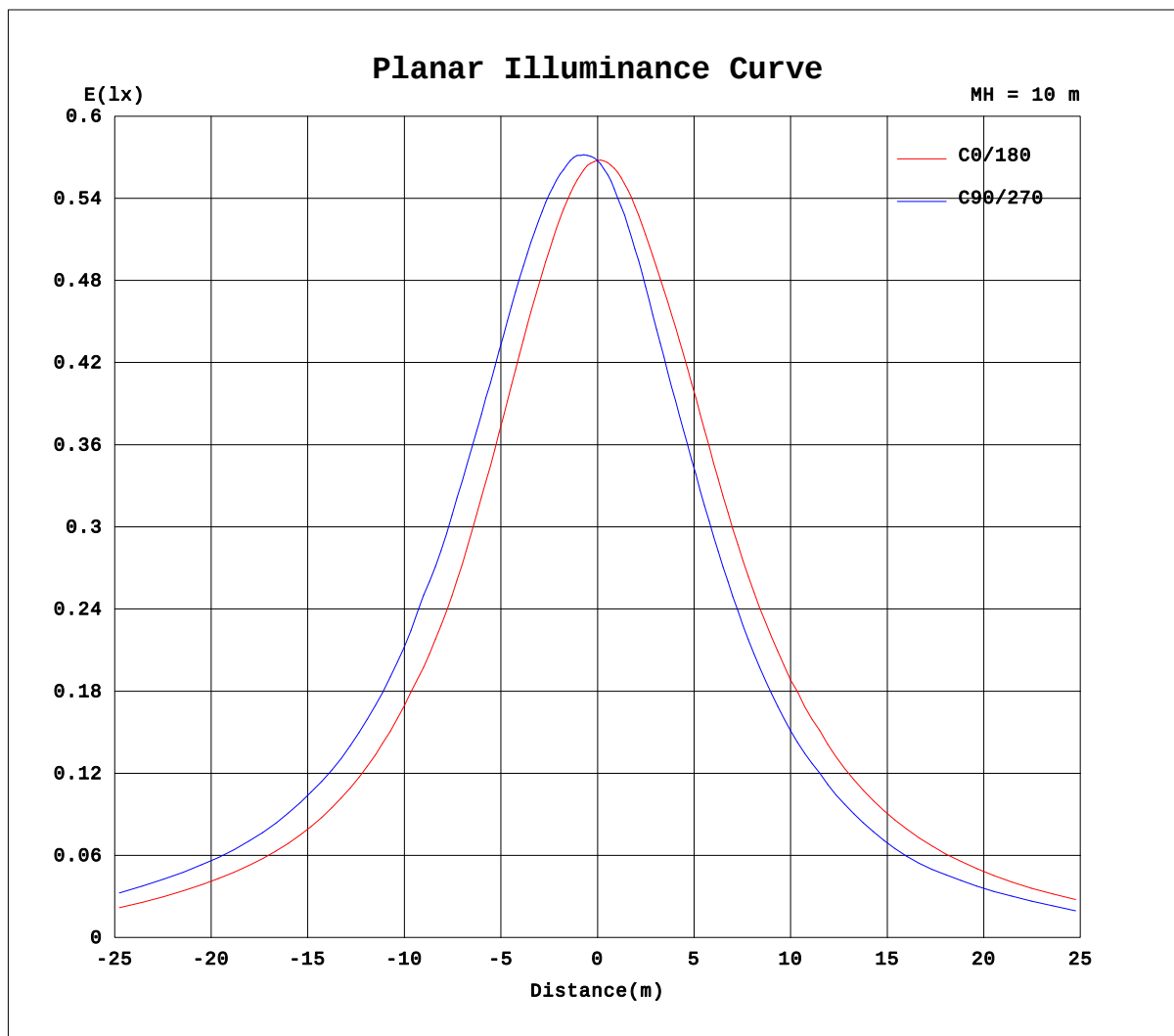
Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm		
NAME: 600-023 (Round Lens)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:1
MFR.:	SUR.:0.0002	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2019-01-10

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2019-01-10

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.443m [K=1.0000]
Remarks:

Test:U:3.827V I:0.6002A P:2.297W PF:1.000 Lamp Flux:244.854x1 lm		
NAME: 600-023 (Round Lens)	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:1
MFR.:	SUR.:0.0002	PROTECTION ANGLE:

UNIT: cd

[illegible]

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity: 65.0%
Test Distance: 9.443m [K=1.0000]
Remarks:

```