

Scaled data based on original data using
LM-66-11 Electrical and Photometric Measurements of Single-Ended Compact
Fluorescent Lamps

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: SHAPER

Report Number: 19437A

Luminaire Tested: **449-EL-24-CF4/32**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 19437A
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 449-EL-24-CF4/32
Description: INTERIOR SUSPENDED LUMINAIRE WITH WHITE PLASTIC BOWL LENS

Light Source: FOUR 32 WATT CPFL LAMPS. LUMEN RATING = 9600 LMS.

Ballast/Driver: -

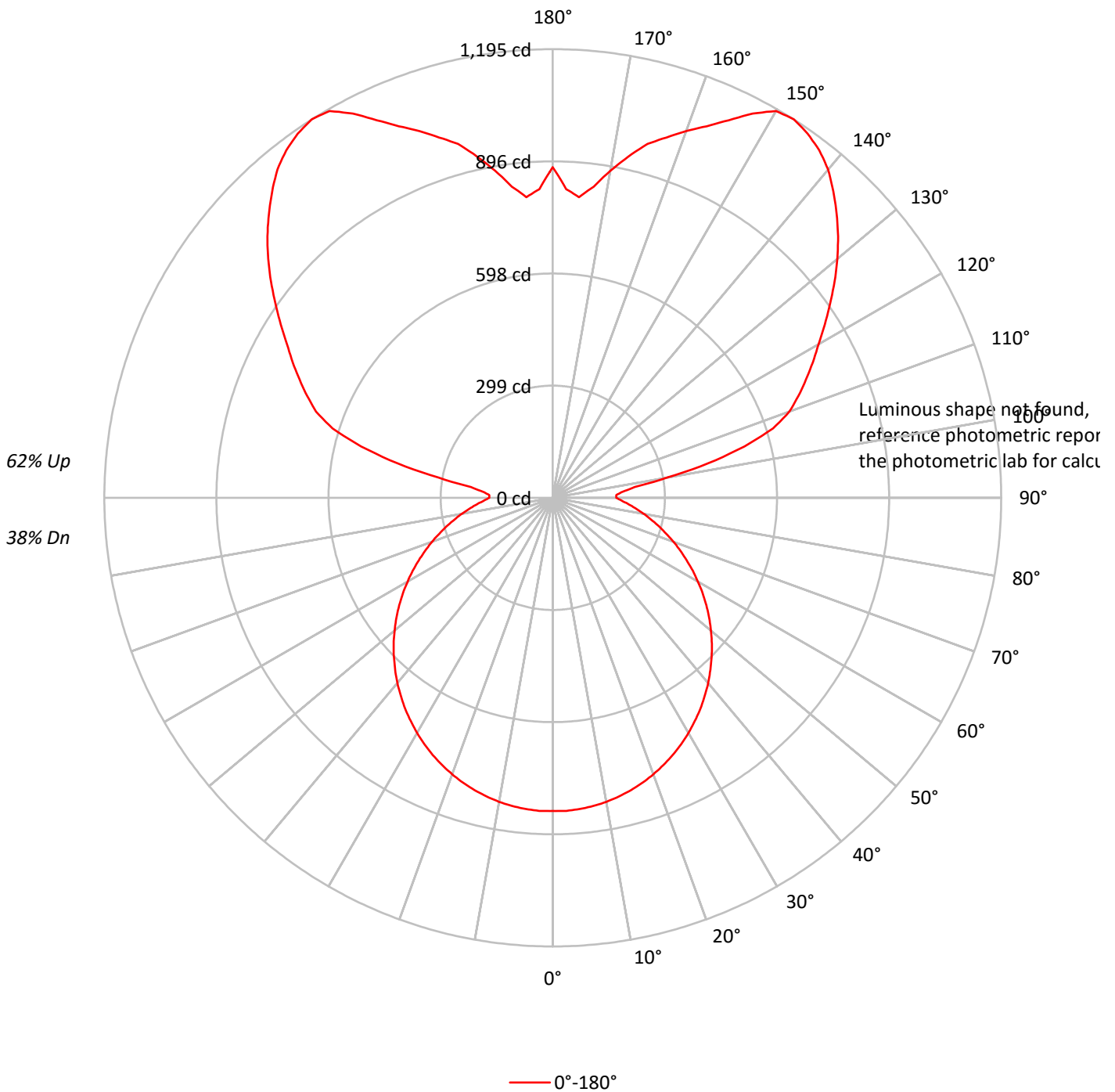
Summary

Lumens per Lamp: 9600 (1 lamp)
Luminaire Lumens: 7668.2 lumens
Efficiency: 79.9%
Efficacy: -
Spacing Criteria (0/90/45): 1.29 / 1.29 / 1.42
Luminous Opening: (L: 0 ' x W: -0.25 ' x H: 0.42 '
CIE Type: Semi-Indirect

Input Watts (W): 0
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





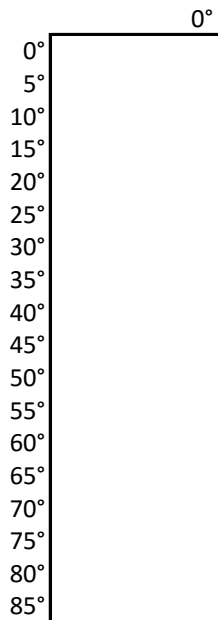
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	83	83	83	83	76	76	76	76	61	61	61	48	48	48	36	36	36	30
1	75	71	68	65	68	65	62	59	52	50	48	41	39	38	30	29	28	24
2	68	62	56	52	61	56	51	48	45	42	39	35	33	31	26	25	23	19
3	62	54	48	43	56	49	44	39	39	36	32	31	28	26	23	21	19	16
4	56	47	41	36	51	43	37	33	35	31	27	27	24	22	20	18	16	13
5	51	42	35	30	46	38	32	28	31	27	23	24	21	19	18	16	14	11
6	47	37	31	26	43	34	28	24	28	23	20	22	19	16	16	14	12	10
7	44	34	27	23	39	31	25	21	25	21	18	20	17	14	15	13	11	9
8	40	30	24	20	36	28	22	18	23	19	15	18	15	13	14	11	10	8
9	38	28	22	18	34	25	20	16	21	17	14	17	13	11	12	10	9	7
10	35	25	20	16	32	23	18	15	19	15	12	15	12	10	12	9	8	6

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	79.1	1.0	0.8
10°-20°	227.6	3.0	2.4
20°-30°	348.7	4.5	3.6
30°-40°	429.2	5.6	4.5
40°-50°	462.2	6.0	4.8
50°-60°	447.0	5.8	4.7
60°-70°	390.7	5.1	4.1
70°-80°	309.6	4.0	3.2
80°-90°	223.7	2.9	2.3
90°-100°	222.1	2.9	2.3
100°-110°	543.0	7.1	5.7
110°-120°	738.0	9.6	7.7
120°-130°	808.5	10.5	8.4
130°-140°	825.8	10.8	8.6
140°-150°	739.3	9.6	7.7
150°-160°	516.9	6.7	5.4
160°-170°	276.8	3.6	2.9
170°-180°	80.0	1.0	0.8
0°-30°	655.3	8.5	6.8
0°-40°	1084.6	14.1	11.3
0°-60°	1993.9	26.0	20.8
0°-90°	2917.9	38.1	30.4
90°-120°	1503.0	19.6	15.7
90°-150°	3876.6	50.6	40.4
90°-180°	4750.0	61.9	49.5
0°-180°	7668.2	100.0	79.9

CANDELA DISTRIBUTION:

	0°	Flux
0°	834	
5°	832	79
15°	806	228
25°	756	349
35°	686	429
45°	599	462
55°	500	447
65°	394	391
75°	293	310
85°	204	175
90°	169	95
95°	186	176
105°	528	543
115°	744	738
125°	902	808
135°	1070	826
145°	1184	739
155°	1109	517
165°	976	277
175°	804	80
180°	880	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	834.2
2.5°	834.5
5°	832.1
7.5°	828.0
10°	822.2
12.5°	814.7
15°	805.8
17.5°	795.7
20°	783.7
22.5°	770.4
25°	756.2
27.5°	740.1
30°	723.2
32.5°	704.5
35°	685.9
37.5°	665.2
40°	644.1
42.5°	621.7
45°	598.7
47.5°	575.1
50°	550.1
52.5°	525.5
55°	499.5
57.5°	473.6
60°	446.8
62.5°	420.7
65°	393.8
67.5°	367.8
70°	342.8
72.5°	316.7
75°	292.6
77.5°	268.3
80°	246.1
82.5°	224.4
85°	203.8
87.5°	184.5
90°	169.4
92.5°	169.1
95°	186.5
97.5°	219.8
100°	309.4
102.5°	424.3
105°	528.5
107.5°	615.3
110°	671.0



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CANDELA DISTRIBUTION (continued):

	0°
112.5°	708.3
115°	744.1
117.5°	780.9
120°	817.5
122.5°	859.2
125°	901.8
127.5°	946.5
130°	989.8
132.5°	1031.3
135°	1069.9
137.5°	1106.9
140°	1141.5
142.5°	1166.6
145°	1184.2
147.5°	1195.2
150°	1189.6
152.5°	1153.6
155°	1109.4
157.5°	1071.1
160°	1039.4
162.5°	1006.3
165°	975.8
167.5°	930.9
170°	884.7
172.5°	835.9
175°	804.0
177.5°	822.7
180°	880.5

(END OF REPORT)