

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: LSI14257

Luminaire Tested: **431-CF4/32**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: LSI14257
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 431-CF4/32
Description: DIRECT/INDIRECT PENDANT
Light Source: 4-F32TTT 9600 LUMENS
Ballast/Driver: -

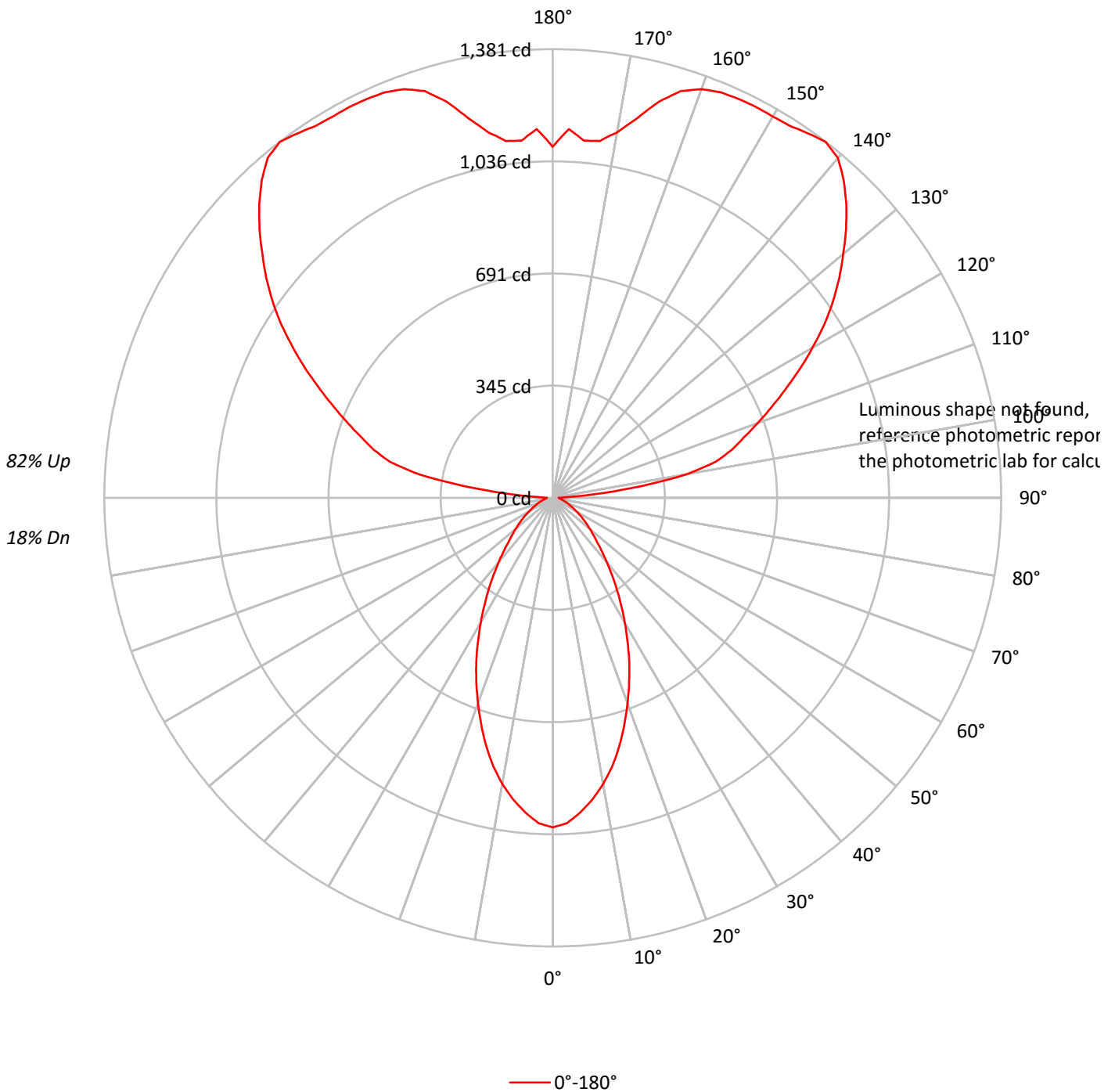
Summary

Lumens per Lamp: 9600 (1 lamp)
Luminaire Lumens: 6594.0 lumens
Efficiency: 68.7%
Efficacy: 44.0 lumens/watt
Spacing Criteria (0/90/45): 0.8 / 0.8 / 0.87
Luminous Opening: (L: 0 ' x W: -1.04 ' x H: 0 '
CIE Type: Semi-Indirect

Input Watts (W): 150
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



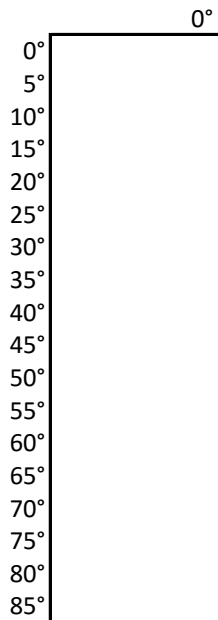


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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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	68	68	68	68	60	60	60	60	45	45	45	31	31	31	18	18	18	12
1	62	60	57	55	55	53	51	49	40	38	37	27	27	26	16	16	16	11
2	57	52	49	45	50	46	43	41	35	33	31	24	23	22	15	14	14	9
3	52	46	42	38	46	41	37	34	31	29	27	22	20	19	13	13	12	8
4	48	41	36	32	42	37	32	29	28	25	23	20	18	17	12	11	11	8
5	44	37	32	28	39	33	28	25	25	22	20	18	16	15	11	10	10	7
6	41	33	28	24	36	29	25	22	23	20	17	16	14	13	10	9	9	6
7	38	30	25	21	33	27	22	19	21	18	15	15	13	12	9	9	8	6
8	35	27	22	19	31	24	20	17	19	16	14	14	12	10	9	8	7	5
9	32	25	20	17	29	22	18	15	17	14	12	13	11	9	8	7	7	5
10	30	23	18	15	27	20	16	14	16	13	11	12	10	9	8	7	6	5

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	90.4	1.4	0.9
10°-20°	220.2	3.3	2.3
20°-30°	254.7	3.9	2.7
30°-40°	215.4	3.3	2.2
40°-50°	152.2	2.3	1.6
50°-60°	102.9	1.6	1.1
60°-70°	63.7	1.0	0.7
70°-80°	38.4	0.6	0.4
80°-90°	24.1	0.4	0.3
90°-100°	178.4	2.7	1.9
100°-110°	593.0	9.0	6.2
110°-120°	785.9	11.9	8.2
120°-130°	940.2	14.3	9.8
130°-140°	984.5	14.9	10.3
140°-150°	859.1	13.0	8.9
150°-160°	626.0	9.5	6.5
160°-170°	358.1	5.4	3.7
170°-180°	106.6	1.6	1.1
0°-30°	565.3	8.6	5.9
0°-40°	780.8	11.8	8.1
0°-60°	1035.9	15.7	10.8
0°-90°	1162.1	17.6	12.1
90°-120°	1557.3	23.6	16.2
90°-150°	4341.2	65.8	45.2
90°-180°	5432.0	82.4	56.6
0°-180°	6594.0	100.0	68.7

CANDELA DISTRIBUTION:

	0°	Flux
0°	1014	
5°	972	90
15°	791	220
25°	557	255
35°	344	215
45°	194	152
55°	114	103
65°	63	64
75°	36	38
85°	22	19
90°	18	13
95°	127	171
105°	570	593
115°	790	786
125°	1053	940
135°	1278	985
145°	1370	859
155°	1355	626
165°	1262	358
175°	1103	107
180°	1080	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	1014.5
2.5°	1002.3
5°	972.2
7.5°	936.1
10°	893.8
12.5°	846.5
15°	791.1
17.5°	732.3
20°	672.6
22.5°	614.5
25°	557.1
27.5°	498.4
30°	444.0
32.5°	391.1
35°	344.1
37.5°	299.0
40°	260.0
42.5°	224.0
45°	193.9
47.5°	169.9
50°	149.1
52.5°	130.9
55°	114.1
57.5°	99.1
60°	85.1
62.5°	73.3
65°	63.2
67.5°	54.7
70°	47.5
72.5°	41.1
75°	35.8
77.5°	31.2
80°	27.4
82.5°	24.3
85°	21.8
87.5°	19.5
90°	18.2
92.5°	37.2
95°	126.9
97.5°	273.6
100°	418.5
102.5°	514.0
105°	570.2
107.5°	616.9
110°	670.6



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CANDELA DISTRIBUTION (continued):

	0°
112.5°	729.0
115°	790.4
117.5°	857.1
120°	923.3
122.5°	990.8
125°	1053.0
127.5°	1112.2
130°	1167.4
132.5°	1224.9
135°	1278.3
137.5°	1326.2
140°	1365.6
142.5°	1380.6
145°	1369.7
147.5°	1357.8
150°	1355.3
152.5°	1355.9
155°	1354.6
157.5°	1350.8
160°	1338.5
162.5°	1312.6
165°	1261.9
167.5°	1195.6
170°	1142.3
172.5°	1107.8
175°	1103.4
177.5°	1136.2
180°	1080.3

(END OF REPORT)