

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P392633

Luminaire Tested: **MWL-4-00-45-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392633
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-3)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-00-45-UNV-L940-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4111.6 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Direct

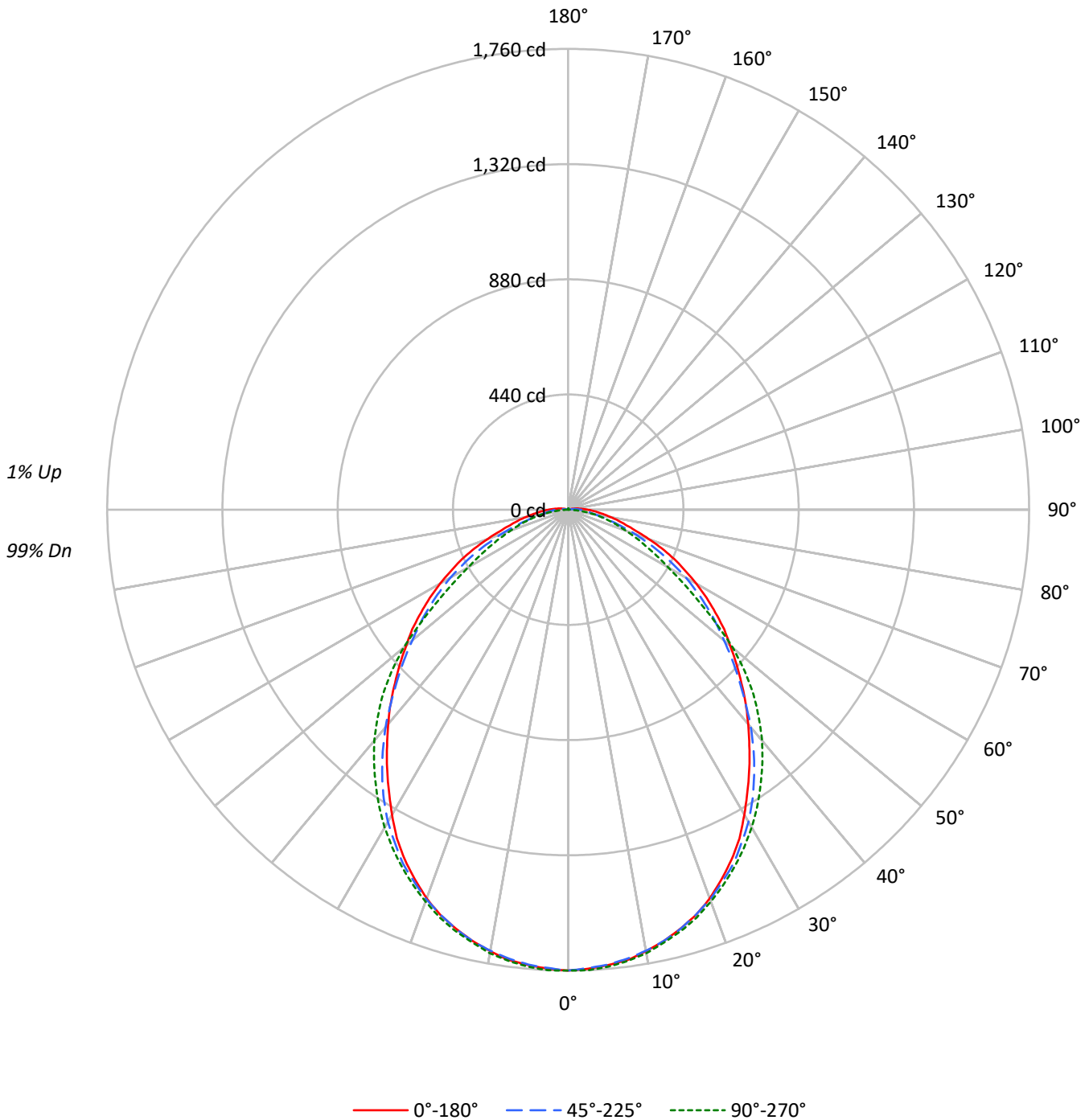
Input Watts (W): 45.955
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P392633

CATALOG NUMBER: MWL-4-00-45-UNV-L940-EDD

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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99				
1	109	105	101	97	106	102	99	95	98	95	92	94	92	89	90	88	86	84				
2	100	92	86	81	97	90	85	80	87	82	78	83	79	76	80	77	74	72				
3	92	82	74	68	89	80	73	68	77	71	66	74	69	65	72	67	64	62				
4	85	73	65	59	82	72	64	58	69	63	57	67	61	56	65	60	56	53				
5	78	66	57	51	76	65	57	51	63	55	50	60	54	49	59	53	49	47				
6	72	60	51	45	70	59	51	45	57	50	44	55	49	44	53	48	43	41				
7	67	54	46	40	66	53	46	40	52	45	40	50	44	39	49	43	39	37				
8	63	50	42	36	61	49	41	36	48	41	36	46	40	35	45	39	35	33				
9	59	46	38	33	57	45	38	32	44	37	32	43	37	32	42	36	32	30				
10	55	42	35	30	54	42	35	30	41	34	29	40	34	29	39	33	29	27				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11368	11368	11368
5°	11215	10582	10444
10°	11025	9858	9590
15°	10774	9164	8783
20°	10461	8475	8025
25°	10025	7796	7310
30°	9460	7077	6625
35°	8858	6312	5940
40°	8286	5527	5279
45°	7733	4734	4573
50°	7207	4040	3759
55°	6725	3439	2810
60°	6172	2851	2076
65°	5589	2223	1581
70°	4802	1625	1180
75°	4142	1092	855
80°	3876	712	544
85°	3853	531	250



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.8	4.0
10°-20°	467.8	11.4
20°-30°	685.6	16.7
30°-40°	775.7	18.9
40°-50°	730.4	17.8
50°-60°	583.0	14.2
60°-70°	382.9	9.3
70°-80°	194.6	4.7
80°-90°	81.2	2.0
90°-100°	29.1	0.7
100°-110°	5.2	0.1
110°-120°	2.1	0.1
120°-130°	2.2	0.1
130°-140°	2.0	0.0
140°-150°	1.7	0.0
150°-160°	1.2	0.0
160°-170°	0.8	0.0
170°-180°	0.3	0.0
0°-30°	1319.2	32.1
0°-40°	2094.9	51.0
0°-60°	3408.3	82.9
0°-90°	4067.1	98.9
90°-120°	36.4	0.9
90°-150°	42.3	1.0
90°-180°	45.0	1.1
0°-180°	4111.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1760	1760	1760	1760	1760	
5°	1746	1749	1744	1751	1752	166
15°	1656	1657	1657	1666	1666	467
25°	1475	1481	1492	1503	1504	678
35°	1205	1213	1238	1276	1281	754
45°	935	923	923	972	1001	723
55°	686	677	646	638	606	614
65°	447	437	389	327	325	441
75°	230	204	171	148	162	250
85°	114	95	71	46	42	104
90°	75	66	47	26	1	41
95°	46	46	28	6	1	33
105°	9	6	2	1	1	12
115°	3	3	2	2	2	3
125°	3	3	3	2	2	2
135°	3	3	3	3	2	2
145°	3	3	3	3	3	2
155°	3	3	3	3	3	1
165°	3	3	3	3	3	1
175°	2	3	3	3	4	0
180°	3	3	3	3	3	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1760.2	1760.2	1760.2	1760.2	1760.2
2.5°	1754.8	1758.4	1752.0	1761.2	1760.2
5°	1745.7	1749.3	1743.8	1751.1	1752.0
7.5°	1734.7	1733.8	1729.3	1738.4	1738.4
10°	1712.0	1714.7	1710.1	1720.2	1720.2
12.5°	1687.4	1689.2	1687.4	1695.6	1692.8
15°	1656.4	1657.3	1657.3	1666.4	1665.5
17.5°	1622.7	1623.6	1621.8	1631.8	1632.7
20°	1579.8	1579.8	1583.5	1591.7	1592.6
22.5°	1528.8	1534.3	1537.9	1549.8	1549.8
25°	1475.1	1481.4	1492.4	1503.3	1504.2
27.5°	1415.8	1423.1	1434.1	1454.1	1454.1
30°	1344.8	1355.7	1376.7	1397.6	1401.3
32.5°	1273.7	1284.7	1310.2	1337.5	1343.9
35°	1205.4	1212.7	1238.2	1275.5	1281.0
37.5°	1136.1	1138.0	1162.6	1207.2	1217.2
40°	1068.7	1064.2	1085.1	1131.6	1151.6
42.5°	1003.1	993.1	1001.3	1056.0	1076.9
45°	934.8	922.9	922.9	972.1	1001.3
47.5°	871.0	856.4	850.1	892.0	914.7
50°	806.3	794.5	776.3	801.8	820.0
52.5°	750.7	734.3	710.7	718.9	708.8
55°	686.1	676.9	646.0	637.8	605.9
57.5°	625.9	620.5	581.3	548.5	518.4
60°	564.0	561.2	519.3	469.2	439.2
62.5°	502.9	499.3	452.8	392.7	380.8
65°	447.4	437.3	389.0	327.1	325.3
67.5°	386.3	370.8	325.3	273.3	277.9
70°	327.1	307.0	270.6	226.9	234.2
72.5°	273.3	250.6	217.8	185.0	196.8
75°	230.5	204.1	171.3	147.6	162.2
77.5°	197.7	164.9	131.2	113.9	130.3
80°	165.8	136.7	103.9	84.7	97.5
82.5°	137.6	111.2	84.7	60.1	68.3
85°	113.9	94.8	71.1	46.5	41.9
87.5°	92.9	78.4	57.4	36.4	14.6
90°	74.7	66.5	47.4	25.5	0.9
92.5°	58.3	55.6	38.3	15.5	0.9
95°	45.6	46.5	28.2	5.5	0.9
97.5°	34.6	35.5	17.3	0.9	0.9
100°	25.5	24.6	8.2	0.9	0.9
102.5°	17.3	14.6	2.7	0.9	0.9
105°	9.1	6.4	1.8	0.9	0.9
107.5°	3.6	2.7	1.8	1.8	0.9
110°	2.7	2.7	1.8	1.8	1.8



TEST NUMBER: P392633

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	2.7	1.8	1.8	1.8
115°	2.7	2.7	1.8	1.8	1.8
117.5°	2.7	2.7	1.8	1.8	1.8
120°	2.7	2.7	2.7	1.8	1.8
122.5°	2.7	2.7	2.7	1.8	1.8
125°	2.7	2.7	2.7	1.8	1.8
127.5°	2.7	2.7	2.7	2.7	1.8
130°	2.7	2.7	2.7	2.7	1.8
132.5°	2.7	2.7	2.7	2.7	1.8
135°	2.7	2.7	2.7	2.7	1.8
137.5°	2.7	2.7	2.7	2.7	1.8
140°	2.7	2.7	2.7	2.7	1.8
142.5°	2.7	2.7	2.7	2.7	1.8
145°	2.7	2.7	2.7	2.7	2.7
147.5°	2.7	2.7	2.7	2.7	1.8
150°	2.7	2.7	2.7	2.7	2.7
152.5°	2.7	2.7	2.7	2.7	2.7
155°	2.7	2.7	2.7	2.7	2.7
157.5°	2.7	2.7	2.7	2.7	2.7
160°	2.7	2.7	2.7	2.7	2.7
162.5°	2.7	2.7	2.7	2.7	2.7
165°	2.7	2.7	2.7	2.7	2.7
167.5°	2.7	2.7	2.7	2.7	2.7
170°	1.8	2.7	2.7	2.7	2.7
172.5°	1.8	2.7	2.7	2.7	3.6
175°	1.8	2.7	2.7	2.7	3.6
177.5°	1.8	2.7	2.7	2.7	2.7
180°	2.7	2.7	2.7	2.7	2.7

(END OF REPORT)