

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: P392635

Luminaire Tested: **MWL-4-00-60-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392635
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-2)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-00-60-UNV-L935-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5091.1 lumens
Efficiency: N/A
Efficacy: 78.0 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

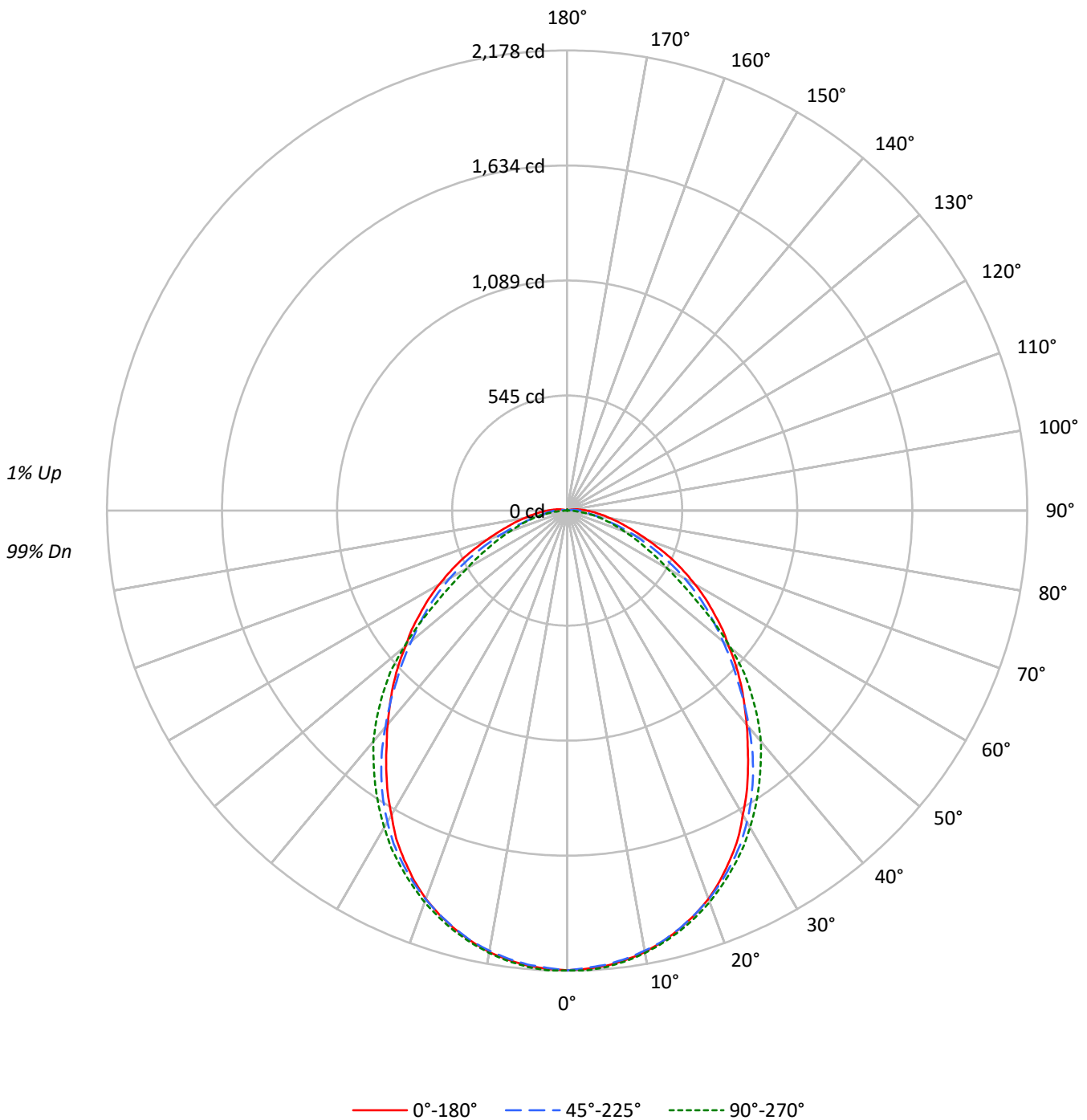
Input Watts (W): 65.246
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	55	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°	14055	14055	14055
5°	13888	13088	12923
10°	13665	12192	11853
15°	13344	11330	10868
20°	12951	10481	9940
25°	12398	9627	9047
30°	11700	8745	8188
35°	10968	7816	7347
40°	10251	6821	6539
45°	9618	5855	5647
50°	8922	5010	4630
55°	8313	4271	3489
60°	7648	3530	2586
65°	6875	2748	1962
70°	5915	2016	1449
75°	5182	1336	1056
80°	4779	889	681
85°	4790	659	303



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.2	4.0
10°-20°	578.7	11.4
20°-30°	848.4	16.7
30°-40°	960.1	18.9
40°-50°	904.2	17.8
50°-60°	722.8	14.2
60°-70°	474.3	9.3
70°-80°	241.1	4.7
80°-90°	100.9	2.0
90°-100°	36.1	0.7
100°-110°	6.5	0.1
110°-120°	2.5	0.0
120°-130°	2.7	0.1
130°-140°	2.5	0.0
140°-150°	2.2	0.0
150°-160°	1.6	0.0
160°-170°	1.0	0.0
170°-180°	0.3	0.0
0°-30°	1632.3	32.1
0°-40°	2592.4	50.9
0°-60°	4219.4	82.9
0°-90°	5035.7	98.9
90°-120°	45.1	0.9
90°-150°	52.5	1.0
90°-180°	55.0	1.1
0°-180°	5091.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2176	2176	2176	2176	2176	
5°	2162	2165	2157	2167	2168	205
15°	2052	2051	2049	2061	2061	578
25°	1824	1830	1843	1862	1862	838
35°	1493	1501	1533	1579	1584	933
45°	1163	1141	1142	1202	1236	896
55°	848	839	802	785	752	760
65°	550	538	481	407	404	544
75°	288	251	210	183	200	312
85°	142	117	88	58	51	129
90°	92	82	58	32	1	51
95°	58	58	35	6	1	42
105°	11	8	2	2	2	14
115°	3	2	2	2	2	3
125°	3	3	3	2	2	3
135°	3	3	3	3	2	3
145°	4	4	3	3	2	2
155°	3	3	3	3	3	2
165°	3	3	3	3	3	1
175°	2	3	3	4	4	0
180°	3	3	3	3	3	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2176.2	2176.2	2176.2	2176.2	2176.2
2.5°	2170.3	2174.5	2166.1	2177.1	2178.0
5°	2161.8	2165.2	2156.7	2166.9	2167.8
7.5°	2144.0	2147.4	2138.9	2150.8	2149.9
10°	2122.0	2120.2	2115.1	2126.2	2126.2
12.5°	2088.9	2090.5	2088.0	2096.5	2095.6
15°	2051.5	2050.7	2049.0	2060.9	2060.9
17.5°	2006.6	2008.3	2005.7	2017.6	2018.5
20°	1955.8	1956.5	1958.3	1970.9	1972.7
22.5°	1893.8	1900.6	1904.0	1919.3	1918.4
25°	1824.3	1830.2	1842.9	1861.6	1861.6
27.5°	1751.3	1759.8	1778.4	1800.5	1801.4
30°	1663.2	1674.1	1701.3	1730.1	1731.8
32.5°	1581.7	1590.2	1621.6	1658.9	1659.7
35°	1492.6	1501.1	1533.4	1579.2	1584.3
37.5°	1403.6	1408.7	1441.0	1495.2	1504.6
40°	1322.2	1317.1	1339.1	1402.7	1426.5
42.5°	1240.8	1230.6	1241.6	1305.2	1334.9
45°	1162.8	1140.7	1141.5	1201.8	1236.5
47.5°	1083.0	1061.8	1053.3	1099.2	1136.4
50°	998.2	984.7	962.6	994.0	1010.1
52.5°	927.8	910.9	879.5	891.4	884.6
55°	848.1	838.7	802.3	785.3	752.3
57.5°	776.9	769.2	722.6	683.6	640.4
60°	698.9	698.9	642.9	580.1	547.0
62.5°	623.4	620.8	561.4	486.8	473.2
65°	550.4	538.5	480.9	407.1	403.7
67.5°	474.1	459.7	402.9	338.4	346.0
70°	402.9	382.5	335.8	279.1	287.5
72.5°	343.5	310.4	269.7	228.2	241.7
75°	288.4	251.0	209.5	183.2	200.2
77.5°	247.7	205.2	163.7	141.6	160.3
80°	204.4	167.9	129.8	105.2	122.1
82.5°	172.1	140.0	105.2	75.5	84.0
85°	141.6	117.0	88.2	57.6	50.9
87.5°	114.5	98.4	71.3	45.8	17.0
90°	92.4	82.2	58.5	32.2	0.9
92.5°	72.9	68.7	47.5	17.8	0.9
95°	57.6	57.6	34.8	6.0	0.9
97.5°	44.1	44.1	22.1	1.7	0.9
100°	32.2	30.5	10.2	1.7	1.7
102.5°	20.4	17.8	3.4	1.7	1.7
105°	11.0	7.6	2.5	1.7	1.7
107.5°	5.1	3.4	2.5	1.7	1.7
110°	3.4	3.4	2.5	1.7	1.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.4	3.4	2.5	1.7	1.7
115°	3.4	2.5	2.5	1.7	1.7
117.5°	3.4	2.5	2.5	2.5	2.5
120°	3.4	3.4	2.5	2.5	2.5
122.5°	3.4	3.4	2.5	2.5	2.5
125°	3.4	3.4	3.4	2.5	2.5
127.5°	3.4	3.4	3.4	2.5	2.5
130°	3.4	3.4	3.4	2.5	2.5
132.5°	3.4	3.4	3.4	3.4	2.5
135°	3.4	3.4	3.4	3.4	2.5
137.5°	3.4	3.4	3.4	3.4	2.5
140°	3.4	3.4	3.4	3.4	2.5
142.5°	3.4	4.2	3.4	3.4	2.5
145°	4.2	4.2	3.4	3.4	2.5
147.5°	4.2	4.2	3.4	3.4	2.5
150°	3.4	3.4	3.4	3.4	2.5
152.5°	3.4	3.4	3.4	3.4	2.5
155°	3.4	3.4	3.4	3.4	3.4
157.5°	3.4	3.4	3.4	3.4	3.4
160°	3.4	3.4	3.4	3.4	3.4
162.5°	3.4	3.4	3.4	3.4	3.4
165°	3.4	3.4	3.4	3.4	3.4
167.5°	3.4	3.4	3.4	4.2	4.2
170°	2.5	3.4	3.4	3.4	4.2
172.5°	1.7	3.4	3.4	4.2	4.2
175°	1.7	3.4	3.4	4.2	4.2
177.5°	1.7	3.4	3.4	4.2	4.2
180°	3.4	3.4	3.4	3.4	3.4

(END OF REPORT)