

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: P382151

Luminaire Tested: **MWL-2-00-23-UNV-L830-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P382151
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-27)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-2-00-23-UNV-L830-EDD
Description: MWL 2FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

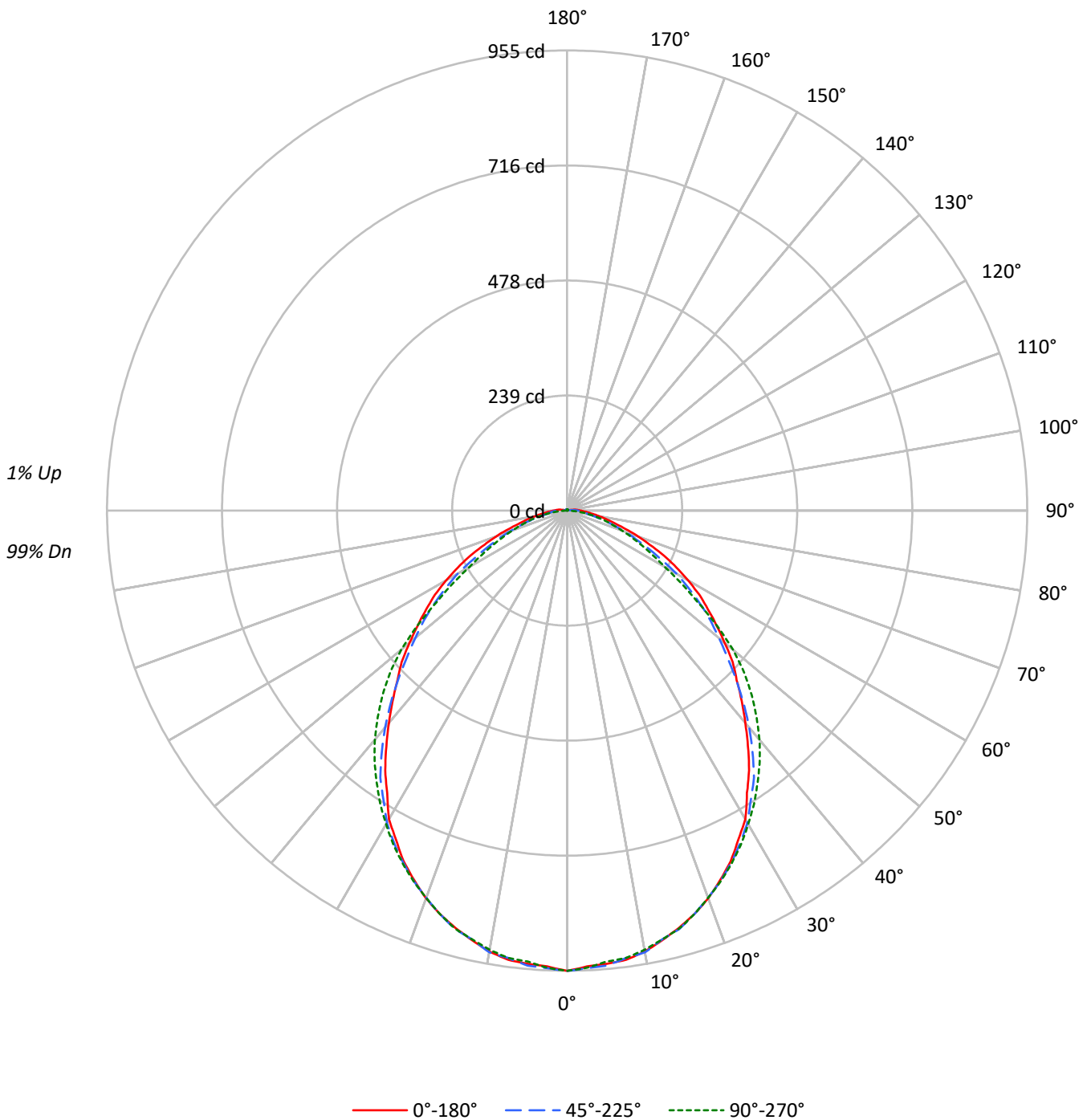
Lumens per Lamp: N/A
Luminaire Lumens: 2170.0 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 2' x H: 0.42')
CIE Type: Direct

Input Watts (W): 22.7
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	110	105	101	98	107	103	99	96	98	96	93	94	92	90	91	89	87	85				
2	101	93	87	82	98	91	85	80	87	83	78	84	80	77	81	78	75	73				
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	63				
4	85	74	66	60	83	73	65	59	70	63	58	68	62	57	65	61	56	54				
5	79	67	58	52	77	65	58	52	63	56	51	61	55	50	59	54	50	48				
6	73	60	52	46	71	59	51	46	58	50	45	56	49	45	54	49	44	42				
7	68	55	47	41	66	54	46	41	53	45	40	51	45	40	50	44	40	38				
8	63	50	42	37	62	50	42	37	48	41	36	47	41	36	46	40	36	34				
9	59	46	39	33	58	46	38	33	45	38	33	44	37	33	42	37	33	31				
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30	28				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12339	12339	12339
5°	12022	11434	11200
10°	11754	10612	10318
15°	11353	9784	9474
20°	10941	8969	8620
25°	10432	8213	7851
30°	9847	7471	7108
35°	9059	6670	6391
40°	8256	5769	5694
45°	7524	4884	4947
50°	6869	4091	4118
55°	6191	3419	3057
60°	5496	2733	2216
65°	4694	2005	1661
70°	3768	1423	1223
75°	2858	946	867
80°	2291	583	531
85°	1885	436	223



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.8	4.1
10°-20°	252.9	11.7
20°-30°	370.9	17.1
30°-40°	420.4	19.4
40°-50°	391.9	18.1
50°-60°	306.2	14.1
60°-70°	189.6	8.7
70°-80°	91.0	4.2
80°-90°	36.4	1.7
90°-100°	11.9	0.5
100°-110°	1.4	0.1
110°-120°	1.1	0.1
120°-130°	1.7	0.1
130°-140°	1.5	0.1
140°-150°	1.4	0.1
150°-160°	1.1	0.1
160°-170°	0.6	0.0
170°-180°	0.2	0.0
0°-30°	713.5	32.9
0°-40°	1133.9	52.3
0°-60°	1832.1	84.4
0°-90°	2149.1	99.0
90°-120°	14.4	0.7
90°-150°	19.0	0.9
90°-180°	21.0	1.0
0°-180°	2170.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	955	955	955	955	955	
5°	944	951	948	947	939	90
15°	896	902	899	896	898	253
25°	803	806	806	810	808	369
35°	658	662	676	688	689	411
45°	498	493	496	524	542	386
55°	357	352	337	335	330	320
65°	222	208	186	167	171	219
75°	102	90	79	73	82	112
85°	43	43	32	22	19	40
90°	28	32	22	11	0	16
95°	20	20	11	1	0	14
105°	1	1	1	1	1	2
115°	2	1	1	1	1	2
125°	2	2	2	2	2	2
135°	2	2	2	2	2	1
145°	3	3	3	2	2	2
155°	3	3	3	2	2	1
165°	3	2	2	2	2	1
175°	1	2	2	3	3	0
180°	2	2	2	2	2	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	955.3	955.3	955.3	955.3	955.3
2.5°	946.9	956.2	950.6	949.7	949.7
5°	944.1	950.6	947.8	946.9	939.4
7.5°	940.3	943.1	936.6	938.5	936.6
10°	929.1	930.1	931.0	926.3	925.4
12.5°	913.2	915.1	911.4	914.2	911.4
15°	896.4	902.0	899.2	896.4	898.3
17.5°	877.8	880.6	877.8	877.8	877.8
20°	856.3	857.2	855.4	854.4	855.4
22.5°	830.1	834.8	832.0	834.8	832.9
25°	803.1	805.9	805.9	810.5	807.7
27.5°	769.4	773.2	777.8	781.6	781.6
30°	739.6	737.7	748.0	750.8	751.7
32.5°	694.7	700.3	709.7	720.9	721.8
35°	658.3	662.1	676.1	688.2	689.1
37.5°	616.3	617.2	632.2	652.7	656.5
40°	575.2	574.3	587.4	611.6	621.0
42.5°	536.0	532.3	541.6	572.4	581.8
45°	497.7	493.0	495.8	523.9	541.6
47.5°	466.0	453.8	451.0	475.3	498.6
50°	426.7	420.2	410.9	428.6	449.2
52.5°	390.3	387.5	374.4	381.9	391.3
55°	356.7	352.0	337.1	335.2	329.6
57.5°	325.0	318.4	297.9	290.4	280.1
60°	289.5	283.9	262.4	242.8	234.4
62.5°	255.9	246.5	220.4	201.7	199.8
65°	222.2	208.2	185.8	167.1	170.9
67.5°	185.8	173.7	154.1	137.3	144.7
70°	156.9	141.9	126.1	113.0	121.4
72.5°	127.0	113.9	100.8	92.4	99.0
75°	101.8	89.6	79.4	72.8	82.2
77.5°	84.0	71.9	59.8	57.9	65.4
80°	67.2	59.8	45.8	43.0	47.6
82.5°	54.2	50.4	38.3	30.8	33.6
85°	43.0	43.0	31.7	22.4	18.7
87.5°	34.6	37.4	27.1	16.8	4.7
90°	28.0	31.7	22.4	11.2	0.0
92.5°	23.3	26.1	17.7	4.7	0.0
95°	19.6	19.6	11.2	0.9	0.0
97.5°	14.9	13.1	4.7	0.9	0.9
100°	8.4	5.6	0.9	0.9	0.9
102.5°	2.8	1.9	0.9	0.9	0.9
105°	0.9	0.9	0.9	0.9	0.9
107.5°	0.9	0.9	0.9	0.9	0.9
110°	0.9	0.9	0.9	0.9	0.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	0.9	0.9	0.9	0.9
115°	1.9	0.9	0.9	0.9	0.9
117.5°	1.9	1.9	0.9	0.9	0.9
120°	1.9	1.9	1.9	1.9	1.9
122.5°	1.9	1.9	1.9	1.9	1.9
125°	1.9	1.9	1.9	1.9	1.9
127.5°	1.9	1.9	1.9	1.9	1.9
130°	1.9	1.9	1.9	1.9	1.9
132.5°	1.9	1.9	1.9	1.9	1.9
135°	1.9	1.9	1.9	1.9	1.9
137.5°	1.9	1.9	1.9	1.9	1.9
140°	1.9	1.9	1.9	1.9	1.9
142.5°	1.9	1.9	1.9	1.9	1.9
145°	2.8	2.8	2.8	1.9	1.9
147.5°	2.8	2.8	2.8	2.8	1.9
150°	2.8	2.8	2.8	1.9	1.9
152.5°	2.8	2.8	2.8	1.9	1.9
155°	2.8	2.8	2.8	1.9	1.9
157.5°	2.8	2.8	1.9	1.9	1.9
160°	2.8	2.8	1.9	1.9	1.9
162.5°	2.8	2.8	1.9	1.9	1.9
165°	2.8	1.9	1.9	1.9	1.9
167.5°	2.8	1.9	1.9	1.9	1.9
170°	1.9	1.9	1.9	1.9	1.9
172.5°	1.9	1.9	1.9	1.9	1.9
175°	0.9	1.9	1.9	2.8	2.8
177.5°	0.9	1.9	1.9	2.8	2.8
180°	1.9	1.9	1.9	1.9	1.9

(END OF REPORT)