

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: P546437

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-81-96-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P546437
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-4-LD4-1HI-35-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

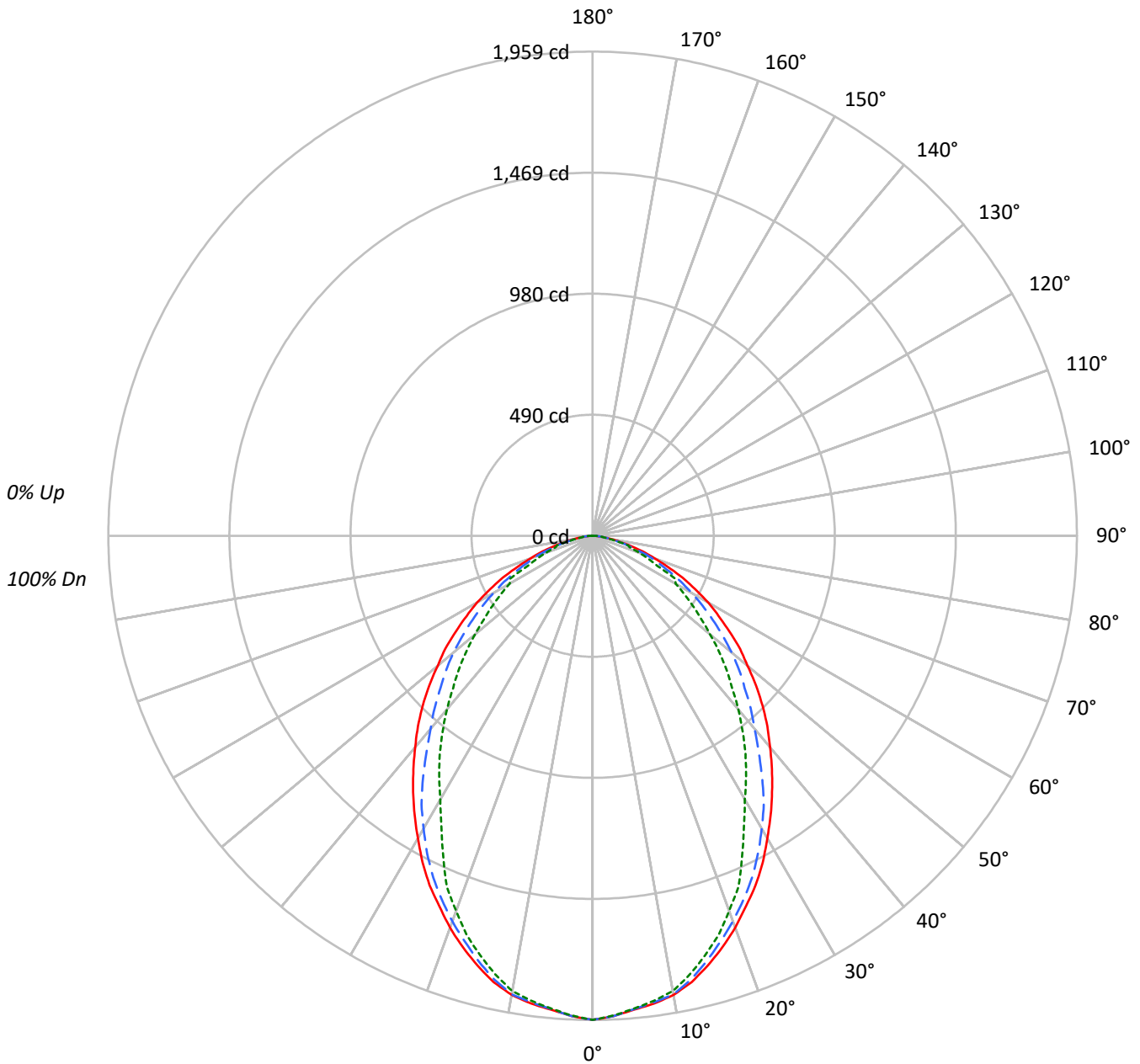
Lumens per Lamp: N/A
Luminaire Lumens: 3845.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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									
RC	80									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	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2635	2635	2635
5°	2599	2596	2593
10°	2577	2574	2555
15°	2507	2482	2448
20°	2415	2376	2312
25°	2316	2266	2124
30°	2195	2125	1914
35°	2079	1964	1770
40°	1961	1790	1611
45°	1848	1654	1456
50°	1711	1536	1299
55°	1583	1392	1163
60°	1450	1243	1042
65°	1276	1089	923
70°	1051	953	784
75°	836	730	765
80°	562	526	491
85°	349	420	489



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.3	4.7
10°-20°	500.4	13.0
20°-30°	692.7	18.0
30°-40°	738.6	19.2
40°-50°	673.9	17.5
50°-60°	527.9	13.7
60°-70°	344.1	8.9
70°-80°	152.4	4.0
80°-90°	32.7	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1375.4	35.8
0°-40°	2114.0	55.0
0°-60°	3315.8	86.2
0°-90°	3845.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3845.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1959	1959	1959	1959	1959	
5°	1925	1922	1922	1920	1920	183
15°	1800	1800	1782	1764	1757	506
25°	1560	1551	1526	1472	1431	716
35°	1266	1257	1196	1105	1078	791
45°	971	951	870	797	765	748
55°	675	654	593	523	496	605
65°	401	378	342	349	290	395
75°	161	149	140	134	147	172
85°	23	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1958.6	1958.6	1958.6	1958.6	1958.6
2.5°	1945.0	1945.0	1945.0	1942.7	1942.7
5°	1924.6	1922.4	1922.4	1920.1	1920.1
7.5°	1908.8	1906.5	1904.2	1902.0	1897.5
10°	1886.1	1886.1	1883.9	1872.5	1870.3
12.5°	1849.9	1847.6	1838.6	1822.7	1818.2
15°	1800.1	1800.1	1782.0	1763.9	1757.1
17.5°	1745.8	1743.5	1720.8	1702.7	1693.7
20°	1686.9	1682.4	1659.7	1630.3	1614.4
22.5°	1621.2	1621.2	1594.0	1555.6	1539.7
25°	1560.1	1551.0	1526.1	1471.8	1431.0
27.5°	1489.9	1476.3	1449.1	1372.1	1324.6
30°	1412.9	1406.1	1367.6	1268.0	1231.8
32.5°	1340.4	1329.1	1288.4	1184.2	1154.8
35°	1265.7	1256.7	1195.5	1105.0	1077.8
37.5°	1191.0	1179.7	1102.7	1030.2	996.3
40°	1116.3	1102.7	1018.9	953.3	917.0
42.5°	1046.1	1028.0	946.5	876.3	835.5
45°	971.4	951.0	869.5	797.0	765.3
47.5°	896.7	878.5	803.8	729.1	692.9
50°	817.4	801.6	733.6	658.9	620.4
52.5°	751.7	726.8	661.2	586.4	554.7
55°	674.8	654.4	593.2	523.0	495.9
57.5°	604.6	584.2	527.6	461.9	439.3
60°	538.9	509.5	461.9	405.3	387.2
62.5°	466.4	443.8	403.0	355.5	378.1
65°	400.8	378.1	341.9	348.7	289.8
67.5°	328.3	317.0	285.3	253.6	244.5
70°	267.2	253.6	242.3	208.3	199.3
72.5°	212.8	199.3	183.4	165.3	158.5
75°	160.8	149.4	140.4	133.6	147.2
77.5°	110.9	106.4	99.6	92.8	90.6
80°	72.5	70.2	67.9	65.7	63.4
82.5°	43.0	43.0	43.0	43.0	43.0
85°	22.6	24.9	27.2	29.4	31.7
87.5°	13.6	13.6	15.8	18.1	20.4
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)