

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: P546438

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-81-97-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: P546438
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-81-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

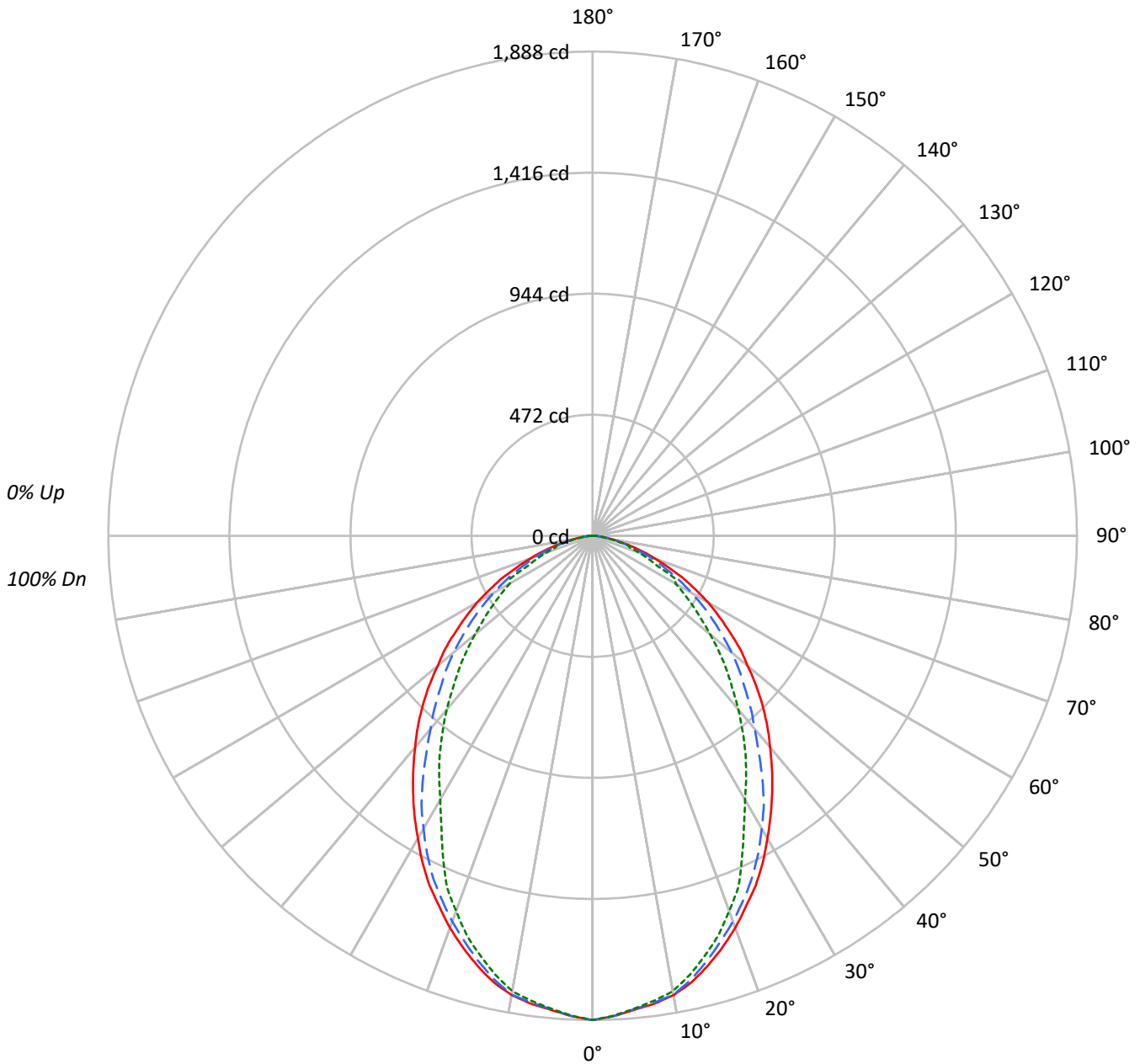
Lumens per Lamp: N/A
Luminaire Lumens: 3707.0 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546438

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-81-97-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	102	102	102	100	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2541	2541	2541
5°	2506	2503	2500
10°	2484	2482	2464
15°	2417	2393	2360
20°	2329	2291	2229
25°	2233	2184	2048
30°	2116	2048	1845
35°	2004	1893	1707
40°	1890	1725	1553
45°	1782	1595	1404
50°	1650	1481	1252
55°	1526	1342	1122
60°	1398	1198	1005
65°	1230	1049	890
70°	1013	919	756
75°	806	703	738
80°	542	508	473
85°	337	404	472



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.8	4.7
10°-20°	482.4	13.0
20°-30°	667.8	18.0
30°-40°	712.1	19.2
40°-50°	649.7	17.5
50°-60°	509.0	13.7
60°-70°	331.7	8.9
70°-80°	147.0	4.0
80°-90°	31.6	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°	1326.0	35.8
0°-40°	2038.1	55.0
0°-60°	3196.8	86.2
0°-90°	3707.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3707.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1888	1888	1888	1888	1888	
5°	1856	1853	1853	1851	1851	176
15°	1736	1736	1718	1701	1694	488
25°	1504	1495	1471	1419	1380	691
35°	1220	1212	1153	1065	1039	763
45°	936	917	838	768	738	721
55°	650	631	572	504	478	584
65°	386	365	330	336	279	381
75°	155	144	135	129	142	166
85°	22	24	26	28	31	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1888.3	1888.3	1888.3	1888.3	1888.3
2.5°	1875.2	1875.2	1875.2	1873.0	1873.0
5°	1855.6	1853.4	1853.4	1851.2	1851.2
7.5°	1840.3	1838.1	1835.9	1833.7	1829.4
10°	1818.4	1818.4	1816.3	1805.3	1803.2
12.5°	1783.5	1781.3	1772.6	1757.3	1753.0
15°	1735.5	1735.5	1718.0	1700.6	1694.0
17.5°	1683.1	1680.9	1659.1	1641.6	1632.9
20°	1626.3	1622.0	1600.1	1571.8	1556.5
22.5°	1563.0	1563.0	1536.8	1499.7	1484.4
25°	1504.1	1495.4	1471.3	1419.0	1379.7
27.5°	1436.4	1423.3	1397.1	1322.9	1277.1
30°	1362.2	1355.6	1318.5	1222.5	1187.6
32.5°	1292.3	1281.4	1242.1	1141.7	1113.3
35°	1220.3	1211.6	1152.6	1065.3	1039.1
37.5°	1148.3	1137.3	1063.1	993.3	960.5
40°	1076.2	1063.1	982.4	919.0	884.1
42.5°	1008.5	991.1	912.5	844.8	805.5
45°	936.5	916.9	838.3	768.4	737.9
47.5°	864.5	847.0	775.0	702.9	668.0
50°	788.1	772.8	707.3	635.3	598.1
52.5°	724.8	700.7	637.4	565.4	534.8
55°	650.5	630.9	571.9	504.3	478.1
57.5°	582.9	563.2	508.6	445.3	423.5
60°	519.6	491.2	445.3	390.8	373.3
62.5°	449.7	427.9	388.6	342.7	364.6
65°	386.4	364.6	329.6	336.2	279.4
67.5°	316.5	305.6	275.1	244.5	235.8
70°	257.6	244.5	233.6	200.8	192.1
72.5°	205.2	192.1	176.8	159.4	152.8
75°	155.0	144.1	135.3	128.8	141.9
77.5°	107.0	102.6	96.1	89.5	87.3
80°	69.9	67.7	65.5	63.3	61.1
82.5°	41.5	41.5	41.5	41.5	41.5
85°	21.8	24.0	26.2	28.4	30.6
87.5°	13.1	13.1	15.3	17.5	19.6
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)