

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: P546036

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-93-94-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: P546036
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-12-4-LD4-1STD-35-UNV-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

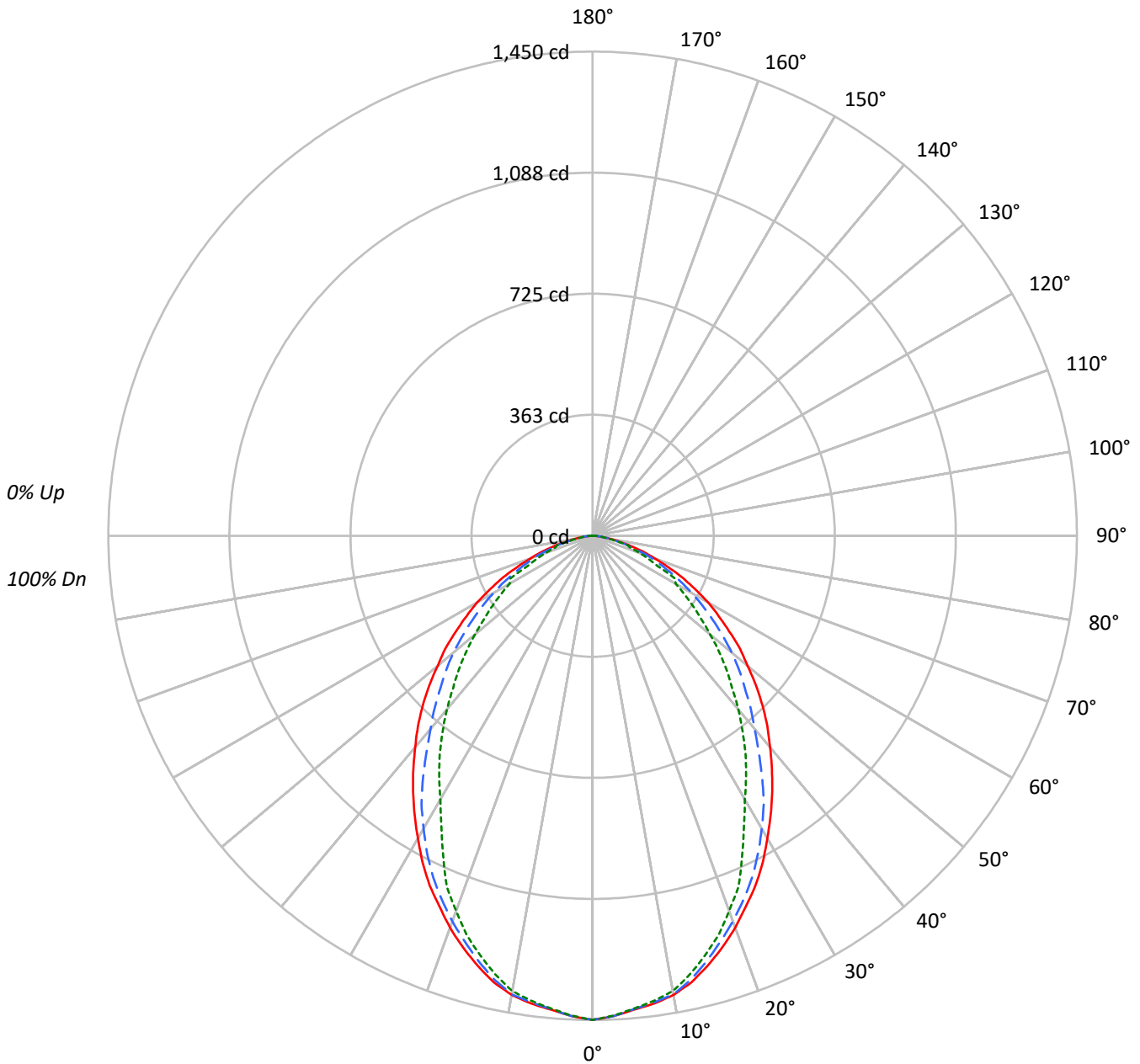
Lumens per Lamp: N/A
Luminaire Lumens: 2846.0 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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: P546036

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-93-94-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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°	3901	3901	3901
5°	3848	3844	3839
10°	3815	3810	3783
15°	3712	3675	3623
20°	3576	3518	3422
25°	3428	3354	3145
30°	3250	3145	2833
35°	3078	2907	2621
40°	2903	2649	2385
45°	2736	2449	2156
50°	2533	2273	1922
55°	2343	2060	1722
60°	2147	1840	1542
65°	1889	1612	1366
70°	1556	1411	1161
75°	1237	1080	1132
80°	831	779	727
85°	519	621	726



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.9	4.7
10°-20°	370.4	13.0
20°-30°	512.7	18.0
30°-40°	546.7	19.2
40°-50°	498.8	17.5
50°-60°	390.7	13.7
60°-70°	254.7	8.9
70°-80°	112.8	4.0
80°-90°	24.2	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°	1018.0	35.8
0°-40°	1564.8	55.0
0°-60°	2454.3	86.2
0°-90°	2846.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2846.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1450	1450	1450	1450	1450	
5°	1425	1423	1423	1421	1421	135
15°	1332	1332	1319	1306	1301	375
25°	1155	1148	1130	1089	1059	530
35°	937	930	885	818	798	586
45°	719	704	644	590	566	554
55°	499	484	439	387	367	448
65°	297	280	253	258	214	292
75°	119	111	104	99	109	128
85°	17	18	20	22	24	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1449.7	1449.7	1449.7	1449.7	1449.7
2.5°	1439.7	1439.7	1439.7	1438.0	1438.0
5°	1424.6	1422.9	1422.9	1421.2	1421.2
7.5°	1412.8	1411.2	1409.5	1407.8	1404.5
10°	1396.1	1396.1	1394.4	1386.0	1384.4
12.5°	1369.3	1367.6	1360.9	1349.2	1345.8
15°	1332.4	1332.4	1319.0	1305.6	1300.6
17.5°	1292.2	1290.5	1273.7	1260.3	1253.6
20°	1248.6	1245.2	1228.5	1206.7	1195.0
22.5°	1200.0	1200.0	1179.9	1151.4	1139.7
25°	1154.7	1148.0	1129.6	1089.4	1059.2
27.5°	1102.8	1092.7	1072.6	1015.6	980.4
30°	1045.8	1040.8	1012.3	938.5	911.7
32.5°	992.2	983.8	953.6	876.5	854.7
35°	936.9	930.2	884.9	817.9	797.8
37.5°	881.6	873.2	816.2	762.6	737.4
40°	826.3	816.2	754.2	705.6	678.8
42.5°	774.3	760.9	700.6	648.6	618.4
45°	719.0	703.9	643.6	589.9	566.5
47.5°	663.7	650.3	595.0	539.7	512.8
50°	605.0	593.3	543.0	487.7	459.2
52.5°	556.4	538.0	489.4	434.1	410.6
55°	499.4	484.4	439.1	387.1	367.0
57.5°	447.5	432.4	390.5	341.9	325.1
60°	398.9	377.1	341.9	300.0	286.6
62.5°	345.2	328.5	298.3	263.1	279.9
65°	296.6	279.9	253.1	258.1	214.5
67.5°	243.0	234.6	211.2	187.7	181.0
70°	197.8	187.7	179.3	154.2	147.5
72.5°	157.5	147.5	135.8	122.3	117.3
75°	119.0	110.6	103.9	98.9	108.9
77.5°	82.1	78.8	73.7	68.7	67.0
80°	53.6	52.0	50.3	48.6	46.9
82.5°	31.8	31.8	31.8	31.8	31.8
85°	16.8	18.4	20.1	21.8	23.5
87.5°	10.1	10.1	11.7	13.4	15.1
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)