

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: P546223

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-93-84-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: P546223
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-LD4-2LO-35-UNV-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

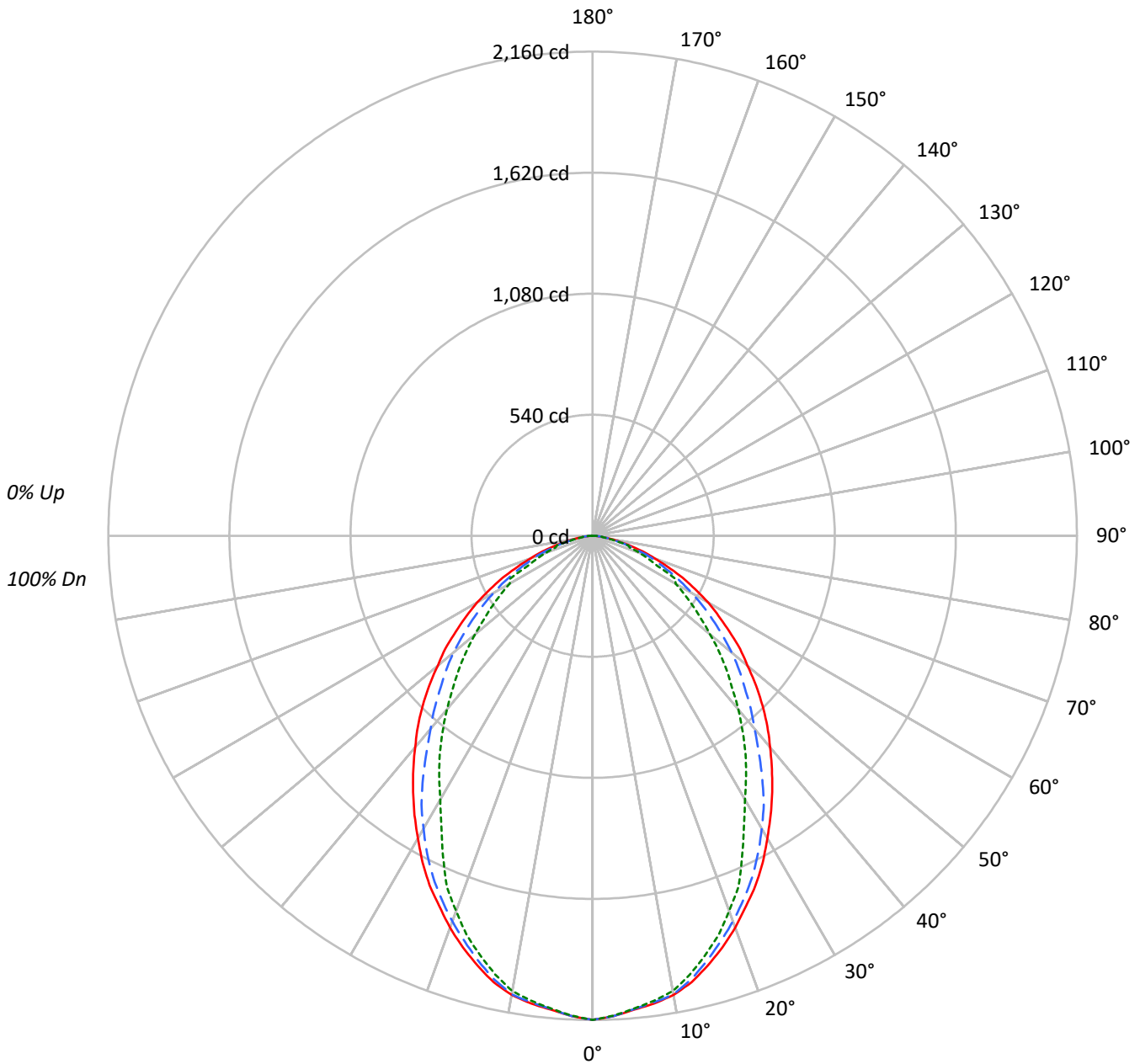
Lumens per Lamp: N/A
Luminaire Lumens: 4240.0 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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	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°	5812	5812	5812
5°	5733	5726	5720
10°	5683	5676	5635
15°	5530	5474	5398
20°	5327	5241	5098
25°	5108	4997	4685
30°	4841	4686	4221
35°	4585	4331	3904
40°	4324	3947	3552
45°	4077	3649	3212
50°	3774	3387	2864
55°	3491	3069	2565
60°	3198	2742	2298
65°	2814	2401	2035
70°	2318	2102	1729
75°	1843	1609	1687
80°	1238	1161	1083
85°	772	926	1081



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.0	4.7
10°-20°	551.8	13.0
20°-30°	763.9	18.0
30°-40°	814.5	19.2
40°-50°	743.1	17.5
50°-60°	582.1	13.7
60°-70°	379.4	8.9
70°-80°	168.1	4.0
80°-90°	36.1	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°	1516.7	35.8
0°-40°	2331.2	55.0
0°-60°	3656.4	86.2
0°-90°	4240.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4240.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2160	2160	2160	2160	2160	
5°	2122	2120	2120	2117	2117	201
15°	1985	1985	1965	1945	1938	558
25°	1720	1710	1683	1623	1578	790
35°	1396	1386	1318	1218	1188	873
45°	1071	1049	959	879	844	825
55°	744	722	654	577	547	667
65°	442	417	377	384	320	436
75°	177	165	155	147	162	190
85°	25	28	30	32	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2159.8	2159.8	2159.8	2159.8	2159.8
2.5°	2144.8	2144.8	2144.8	2142.3	2142.3
5°	2122.3	2119.8	2119.8	2117.4	2117.4
7.5°	2104.9	2102.4	2099.9	2097.4	2092.4
10°	2079.9	2079.9	2077.4	2064.9	2062.4
12.5°	2039.9	2037.5	2027.5	2010.0	2005.0
15°	1985.0	1985.0	1965.0	1945.1	1937.6
17.5°	1925.1	1922.6	1897.6	1877.7	1867.7
20°	1860.2	1855.2	1830.2	1797.8	1780.3
22.5°	1787.8	1787.8	1757.8	1715.4	1697.9
25°	1720.3	1710.4	1682.9	1623.0	1578.0
27.5°	1642.9	1628.0	1598.0	1513.1	1460.7
30°	1558.1	1550.6	1508.1	1398.3	1358.3
32.5°	1478.2	1465.7	1420.7	1305.9	1273.4
35°	1395.8	1385.8	1318.4	1218.5	1188.5
37.5°	1313.4	1300.9	1216.0	1136.1	1098.6
40°	1231.0	1216.0	1123.6	1051.2	1011.2
42.5°	1153.6	1133.6	1043.7	966.3	921.3
45°	1071.2	1048.7	958.8	878.9	843.9
47.5°	988.8	968.8	886.4	804.0	764.0
50°	901.4	883.9	809.0	726.6	684.1
52.5°	829.0	801.5	729.1	646.7	611.7
55°	744.1	721.6	654.2	576.8	546.8
57.5°	666.7	644.2	581.8	509.4	484.4
60°	594.3	561.8	509.4	446.9	427.0
62.5°	514.4	489.4	444.4	392.0	417.0
65°	441.9	417.0	377.0	384.5	319.6
67.5°	362.0	349.6	314.6	279.7	269.7
70°	294.6	279.7	267.2	229.7	219.7
72.5°	234.7	219.7	202.2	182.3	174.8
75°	177.3	164.8	154.8	147.3	162.3
77.5°	122.3	117.4	109.9	102.4	99.9
80°	79.9	77.4	74.9	72.4	69.9
82.5°	47.4	47.4	47.4	47.4	47.4
85°	25.0	27.5	30.0	32.5	35.0
87.5°	15.0	15.0	17.5	20.0	22.5
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)