

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: P546247

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-82-84-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: P546247
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-40-UNV-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

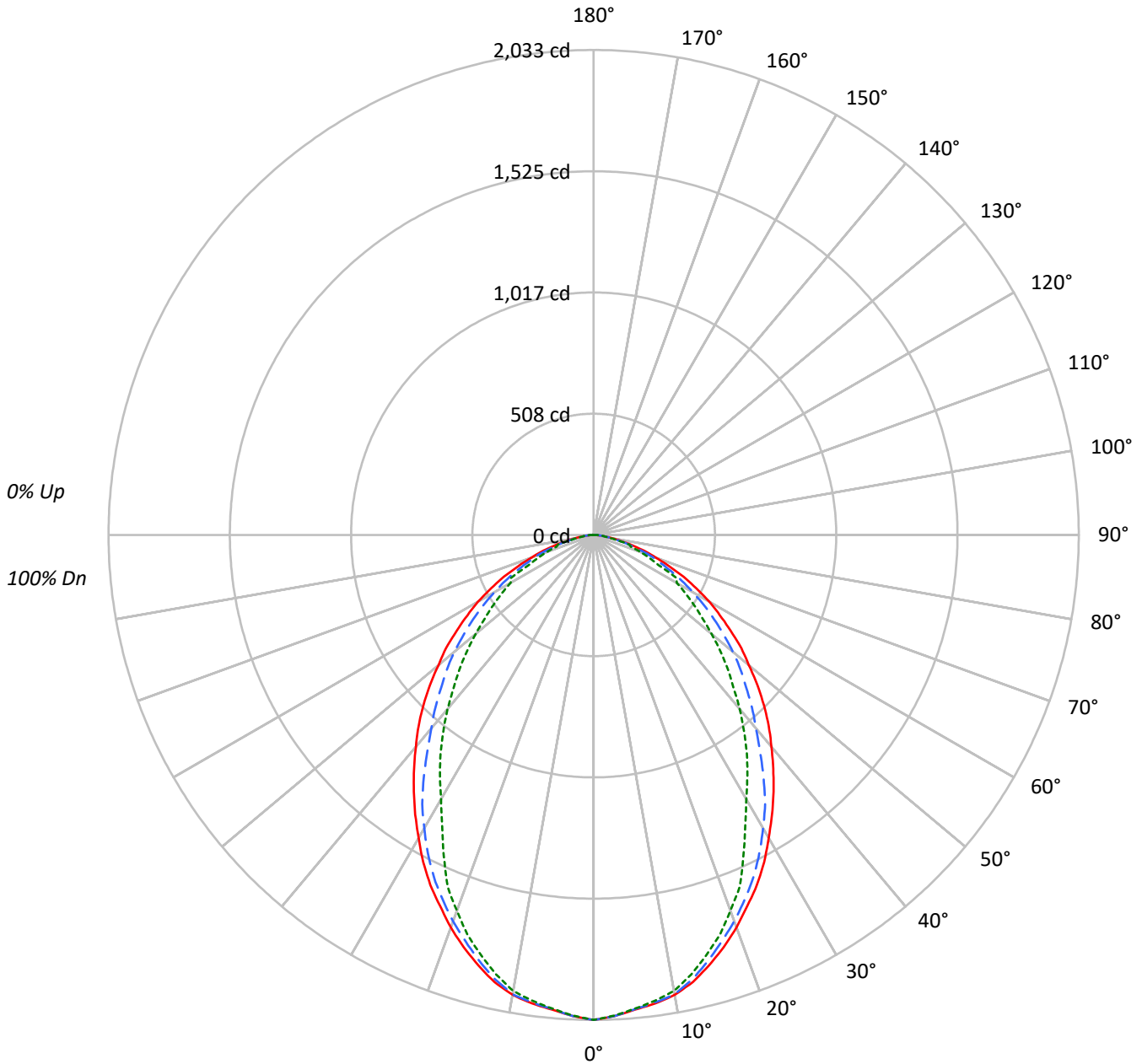
Lumens per Lamp: N/A
Luminaire Lumens: 3991.0 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	5471	5471	5471
5°	5396	5390	5384
10°	5350	5343	5305
15°	5205	5153	5081
20°	5014	4933	4799
25°	4808	4703	4410
30°	4557	4411	3973
35°	4316	4076	3675
40°	4070	3715	3344
45°	3837	3435	3023
50°	3552	3188	2696
55°	3286	2889	2415
60°	3011	2581	2163
65°	2649	2260	1915
70°	2182	1979	1627
75°	1735	1515	1589
80°	1165	1093	1020
85°	726	871	1016



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.2	4.7
10°-20°	519.4	13.0
20°-30°	719.0	18.0
30°-40°	766.7	19.2
40°-50°	699.4	17.5
50°-60°	548.0	13.7
60°-70°	357.1	8.9
70°-80°	158.2	4.0
80°-90°	34.0	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°	1427.6	35.8
0°-40°	2194.3	55.0
0°-60°	3441.7	86.2
0°-90°	3991.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3991.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2033	2033	2033	2033	2033	
5°	1998	1995	1995	1993	1993	190
15°	1868	1868	1850	1831	1824	525
25°	1619	1610	1584	1528	1485	743
35°	1314	1304	1241	1147	1119	821
45°	1008	987	902	827	794	777
55°	700	679	616	543	515	628
65°	416	392	355	362	301	410
75°	167	155	146	139	153	179
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2033.0	2033.0	2033.0	2033.0	2033.0
2.5°	2018.9	2018.9	2018.9	2016.5	2016.5
5°	1997.7	1995.4	1995.4	1993.0	1993.0
7.5°	1981.3	1978.9	1976.6	1974.2	1969.5
10°	1957.8	1957.8	1955.4	1943.7	1941.3
12.5°	1920.2	1917.8	1908.4	1891.9	1887.2
15°	1868.4	1868.4	1849.6	1830.8	1823.8
17.5°	1812.0	1809.7	1786.2	1767.4	1758.0
20°	1750.9	1746.2	1722.7	1692.2	1675.7
22.5°	1682.8	1682.8	1654.6	1614.6	1598.2
25°	1619.3	1609.9	1584.1	1527.7	1485.4
27.5°	1546.5	1532.4	1504.2	1424.2	1374.9
30°	1466.6	1459.5	1419.5	1316.1	1278.5
32.5°	1391.3	1379.6	1337.3	1229.2	1198.6
35°	1313.8	1304.4	1240.9	1146.9	1118.7
37.5°	1236.2	1224.5	1144.6	1069.4	1034.1
40°	1158.7	1144.6	1057.6	989.5	951.8
42.5°	1085.8	1067.0	982.4	909.5	867.2
45°	1008.3	987.1	902.5	827.3	794.4
47.5°	930.7	911.9	834.3	756.8	719.2
50°	848.4	832.0	761.5	683.9	644.0
52.5°	780.3	754.4	686.3	608.7	575.8
55°	700.4	679.2	615.8	542.9	514.7
57.5°	627.5	606.4	547.6	479.5	455.9
60°	559.4	528.8	479.5	420.7	401.9
62.5°	484.2	460.6	418.3	369.0	392.5
65°	416.0	392.5	354.9	361.9	300.8
67.5°	340.8	329.0	296.1	263.2	253.8
70°	277.3	263.2	251.5	216.2	206.8
72.5°	220.9	206.8	190.4	171.6	164.5
75°	166.9	155.1	145.7	138.7	152.8
77.5°	115.2	110.5	103.4	96.4	94.0
80°	75.2	72.9	70.5	68.2	65.8
82.5°	44.7	44.7	44.7	44.7	44.7
85°	23.5	25.9	28.2	30.6	32.9
87.5°	14.1	14.1	16.5	18.8	21.2
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)