

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: P546461

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-80-96-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: P546461
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-40-UNV-80-96-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

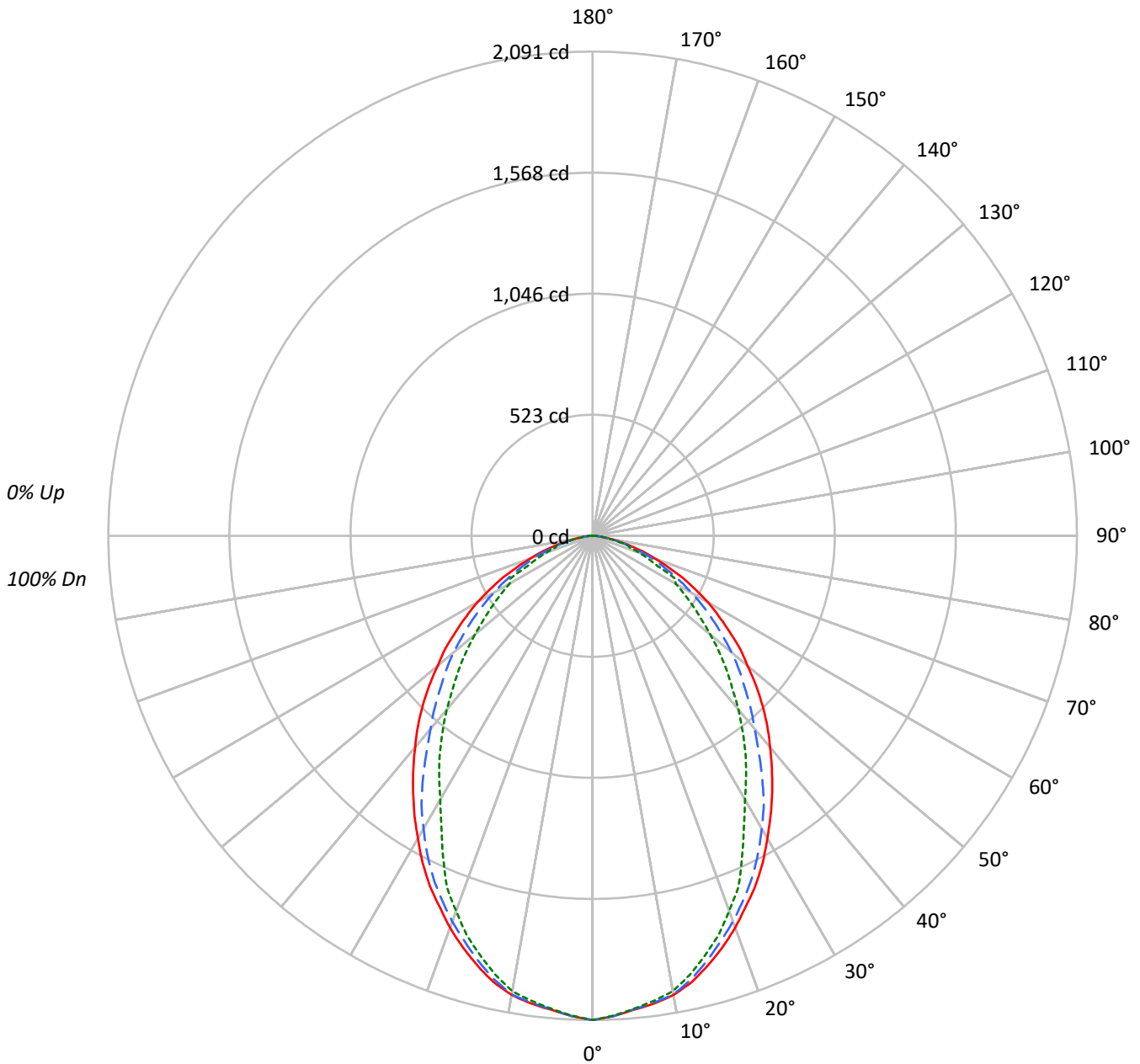
Lumens per Lamp: N/A
Luminaire Lumens: 4105.0 lumens
Efficiency: N/A
Efficacy: 95.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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

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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°	2813	2813	2813
5°	2775	2772	2769
10°	2751	2748	2728
15°	2677	2650	2613
20°	2579	2537	2468
25°	2473	2419	2268
30°	2344	2268	2043
35°	2220	2097	1890
40°	2093	1911	1720
45°	1973	1766	1555
50°	1827	1639	1387
55°	1690	1486	1242
60°	1548	1327	1112
65°	1362	1162	985
70°	1122	1018	837
75°	892	779	817
80°	600	562	525
85°	374	448	522



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.6	4.7
10°-20°	534.2	13.0
20°-30°	739.5	18.0
30°-40°	788.6	19.2
40°-50°	719.4	17.5
50°-60°	563.6	13.7
60°-70°	367.3	8.9
70°-80°	162.7	4.0
80°-90°	34.9	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°	1468.4	35.8
0°-40°	2257.0	55.0
0°-60°	3540.0	86.2
0°-90°	4105.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4105.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2091	2091	2091	2091	2091	
5°	2055	2052	2052	2050	2050	195
15°	1922	1922	1902	1883	1876	540
25°	1666	1656	1629	1571	1528	765
35°	1351	1342	1276	1180	1151	845
45°	1037	1015	928	851	817	799
55°	720	699	633	558	529	646
65°	428	404	365	372	309	422
75°	172	160	150	143	157	184
85°	24	27	29	31	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2091.0	2091.0	2091.0	2091.0	2091.0
2.5°	2076.5	2076.5	2076.5	2074.1	2074.1
5°	2054.8	2052.4	2052.4	2049.9	2049.9
7.5°	2037.8	2035.4	2033.0	2030.6	2025.8
10°	2013.7	2013.7	2011.3	1999.2	1996.8
12.5°	1975.0	1972.6	1962.9	1946.0	1941.2
15°	1921.8	1921.8	1902.5	1883.1	1875.9
17.5°	1863.8	1861.4	1837.2	1817.9	1808.2
20°	1800.9	1796.1	1771.9	1740.5	1723.6
22.5°	1730.8	1730.8	1701.8	1660.7	1643.8
25°	1665.6	1655.9	1629.3	1571.3	1527.8
27.5°	1590.6	1576.1	1547.1	1464.9	1414.2
30°	1508.4	1501.2	1460.1	1353.7	1315.1
32.5°	1431.1	1419.0	1375.5	1264.3	1232.9
35°	1351.3	1341.6	1276.4	1179.7	1150.7
37.5°	1271.5	1259.5	1177.3	1099.9	1063.6
40°	1191.8	1177.3	1087.8	1017.7	979.0
42.5°	1116.8	1097.5	1010.5	935.5	892.0
45°	1037.1	1015.3	928.3	850.9	817.1
47.5°	957.3	937.9	858.2	778.4	739.7
50°	872.7	855.8	783.2	703.5	662.4
52.5°	802.6	776.0	705.9	626.1	592.3
55°	720.4	698.6	633.4	558.4	529.4
57.5°	645.4	623.7	563.2	493.1	469.0
60°	575.3	543.9	493.1	432.7	413.4
62.5°	498.0	473.8	430.3	379.5	403.7
65°	427.9	403.7	365.0	372.3	309.4
67.5°	350.5	338.4	304.6	270.7	261.1
70°	285.3	270.7	258.7	222.4	212.7
72.5°	227.2	212.7	195.8	176.5	169.2
75°	171.6	159.5	149.9	142.6	157.1
77.5°	118.5	113.6	106.4	99.1	96.7
80°	77.4	74.9	72.5	70.1	67.7
82.5°	45.9	45.9	45.9	45.9	45.9
85°	24.2	26.6	29.0	31.4	33.8
87.5°	14.5	14.5	16.9	19.3	21.8
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)