

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: P589069

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-93-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589069  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-2HI-50-UNV-93-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

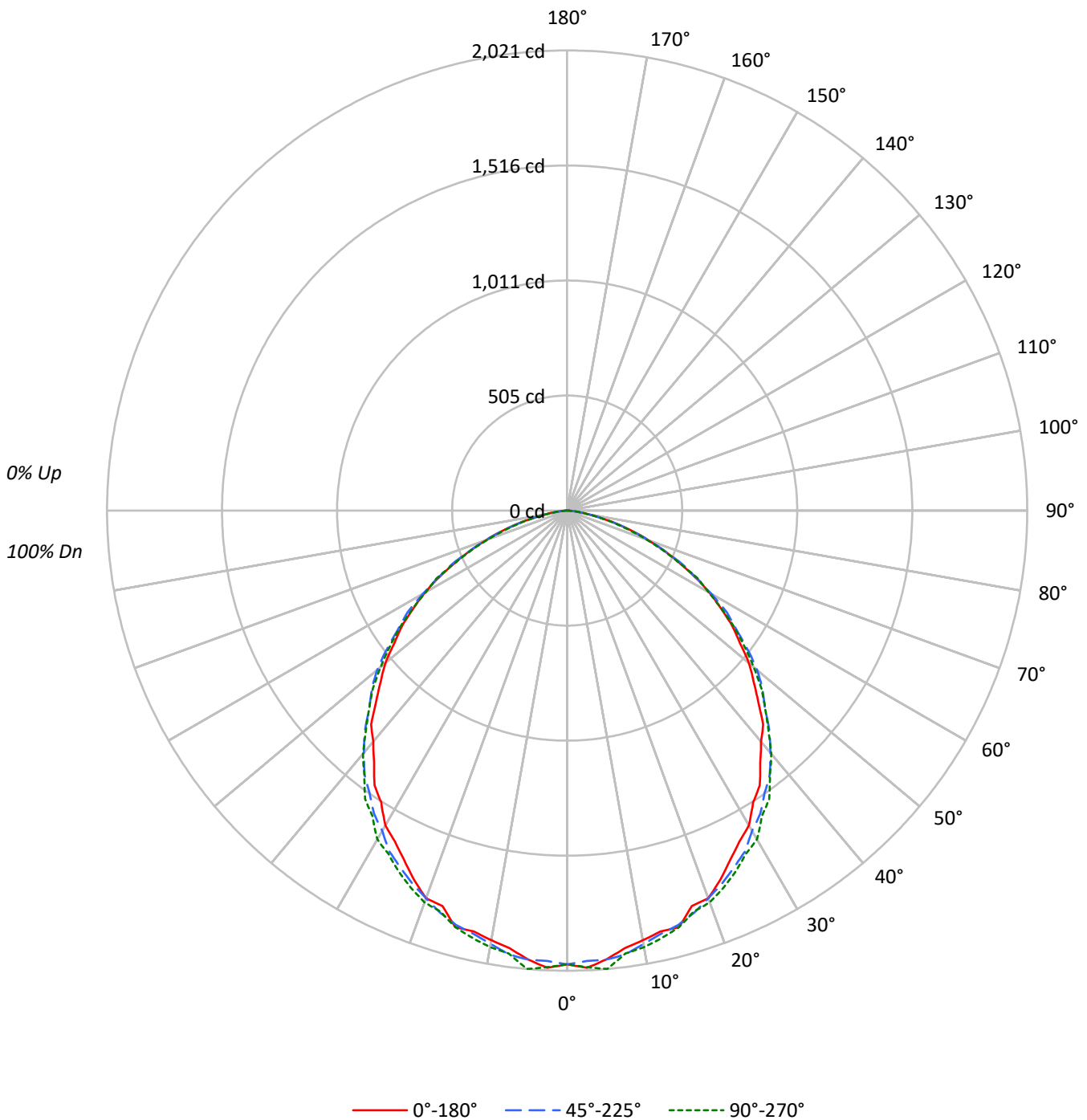
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5022.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' 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

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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5362	5362	5362
5°	5344	5346	5459
10°	5236	5282	5319
15°	5277	5249	5278
20°	5188	5188	5243
25°	5029	5139	5195
30°	4960	5047	5181
35°	4843	4970	5081
40°	4654	4879	4900
45°	4513	4674	4681
50°	4365	4562	4475
55°	4160	4240	4210
60°	3890	3928	3858
65°	3468	3556	3443
70°	2976	2986	2902
75°	2357	2351	2260
80°	1579	1536	1475
85°	858	849	794



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.4	3.7
10°-20°	531.2	10.6
20°-30°	795.9	15.8
30°-40°	943.3	18.8
40°-50°	945.0	18.8
50°-60°	802.2	16.0
60°-70°	540.8	10.8
70°-80°	237.6	4.7
80°-90°	38.6	0.8
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°	1514.5	30.2
0°-40°	2457.8	48.9
0°-60°	4204.9	83.7
0°-90°	5022.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5022.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1993	1993	1993	1993	1993	
5°	1978	1974	1979	1973	2021	187
15°	1894	1872	1884	1894	1895	528
25°	1694	1703	1731	1753	1750	783
35°	1474	1479	1513	1548	1547	915
45°	1186	1208	1228	1260	1230	917
55°	887	881	904	898	897	789
65°	545	537	558	537	541	542
75°	227	222	226	210	217	243
85°	28	27	28	27	26	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1992.6	1992.6	1992.6	1992.6	1992.6
2.5°	2009.8	1994.7	1980.5	1997.0	2007.0
5°	1978.5	1973.8	1979.2	1973.3	2020.9
7.5°	1937.8	1955.6	1965.8	1959.4	1962.2
10°	1916.2	1910.0	1932.9	1948.9	1946.6
12.5°	1893.0	1902.3	1903.6	1920.8	1922.4
15°	1894.3	1872.5	1884.0	1893.8	1894.6
17.5°	1820.7	1844.4	1852.4	1874.8	1847.0
20°	1811.7	1794.5	1811.7	1834.6	1831.0
22.5°	1756.4	1737.1	1774.2	1794.5	1793.2
25°	1693.6	1702.9	1730.7	1753.3	1749.7
27.5°	1638.6	1649.4	1689.0	1720.1	1700.1
30°	1596.1	1590.7	1624.2	1652.0	1667.4
32.5°	1520.2	1539.8	1578.9	1606.4	1591.8
35°	1474.2	1478.6	1512.8	1547.8	1546.7
37.5°	1393.7	1414.0	1462.1	1471.9	1462.9
40°	1325.0	1345.3	1388.8	1399.3	1395.0
42.5°	1274.3	1277.9	1315.2	1327.3	1308.0
45°	1186.0	1208.2	1228.2	1259.9	1230.0
47.5°	1110.9	1121.2	1164.4	1172.9	1157.2
50°	1042.7	1046.3	1089.8	1079.3	1069.0
52.5°	957.1	972.2	996.7	994.6	982.5
55°	886.6	880.7	903.8	897.6	897.4
57.5°	801.9	812.2	831.3	821.5	805.8
60°	722.7	722.9	729.9	718.8	716.8
62.5°	634.4	637.5	639.1	625.4	647.6
65°	544.7	537.4	558.5	537.2	540.8
67.5°	462.1	465.7	463.6	450.2	455.4
70°	378.2	382.8	379.5	364.3	368.9
72.5°	301.5	295.9	299.5	280.4	289.2
75°	226.7	222.0	226.1	210.2	217.4
77.5°	154.4	158.0	155.4	146.9	151.8
80°	101.9	99.1	99.1	94.2	95.2
82.5°	59.4	56.6	55.8	54.3	56.6
85°	27.8	27.0	27.5	26.8	25.7
87.5°	10.0	10.3	10.3	9.8	9.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)