

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: P589473

Luminaire Tested: **FMR-24-2-LD4-3STD-35-UNV-81-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589473  
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-LD4-3STD-35-UNV-81-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

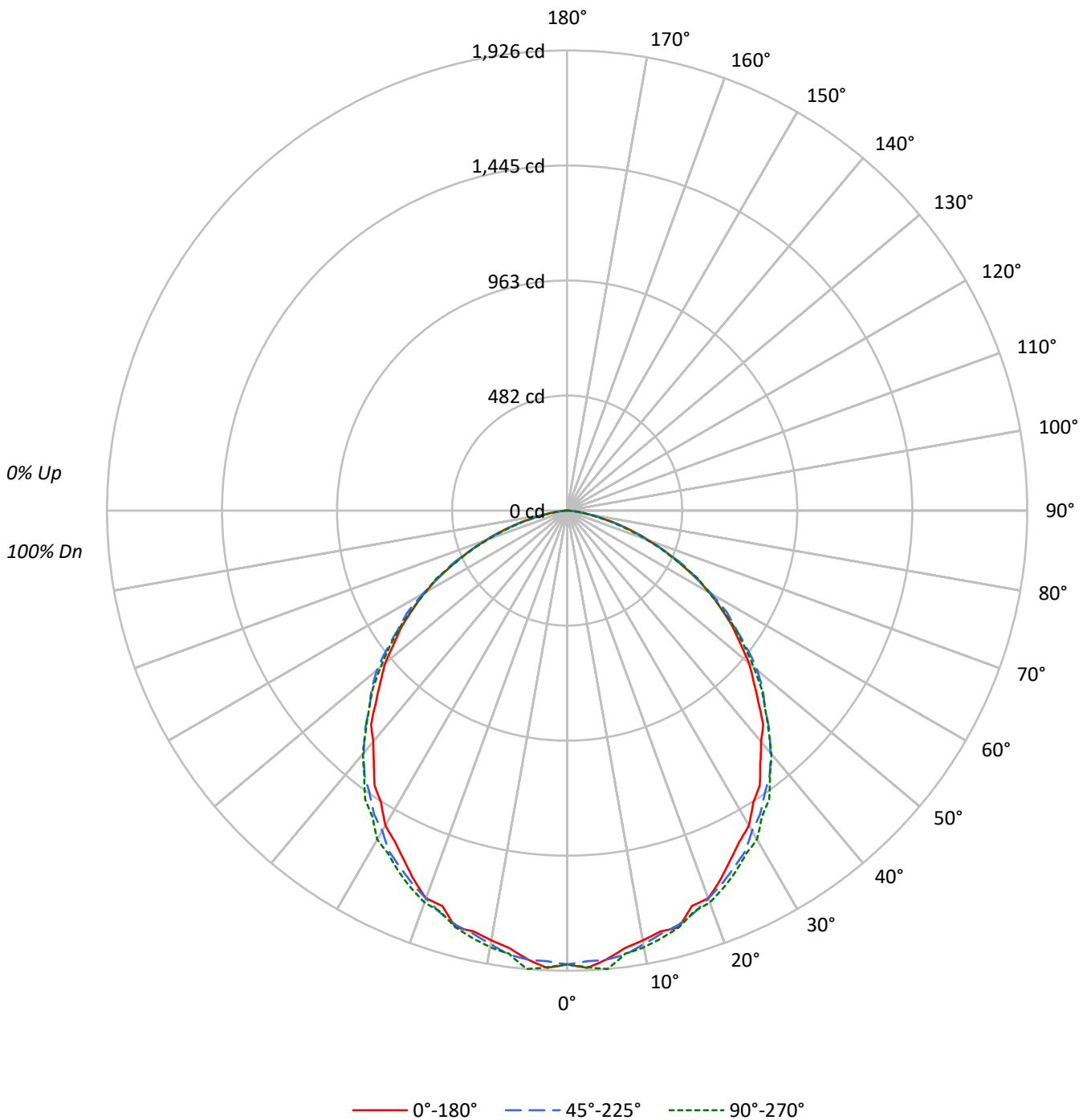
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4787.0 lumens  
Efficiency: N/A  
Efficacy: 95.7 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): 50  
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°	5111	5111	5111
5°	5094	5096	5203
10°	4991	5035	5070
15°	5031	5003	5031
20°	4946	4946	4998
25°	4793	4898	4952
30°	4728	4811	4939
35°	4616	4737	4844
40°	4437	4650	4671
45°	4302	4456	4462
50°	4161	4349	4266
55°	3965	4042	4013
60°	3708	3744	3677
65°	3306	3390	3282
70°	2836	2846	2767
75°	2247	2242	2154
80°	1505	1463	1406
85°	818	809	756



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	178.7	3.7
10°-20°	506.4	10.6
20°-30°	758.6	15.8
30°-40°	899.1	18.8
40°-50°	900.8	18.8
50°-60°	764.6	16.0
60°-70°	515.5	10.8
70°-80°	226.5	4.7
80°-90°	36.8	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°	1443.6	30.2
0°-40°	2342.8	48.9
0°-60°	4008.2	83.7
0°-90°	4787.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4787.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1899	1899	1899	1899	1899	
5°	1886	1882	1887	1881	1926	178
15°	1806	1785	1796	1805	1806	503
25°	1614	1623	1650	1671	1668	746
35°	1405	1409	1442	1475	1474	872
45°	1130	1152	1171	1201	1172	875
55°	845	839	862	856	855	752
65°	519	512	532	512	516	516
75°	216	212	216	200	207	232
85°	26	26	26	26	24	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1899.4	1899.4	1899.4	1899.4	1899.4
2.5°	1915.8	1901.3	1887.8	1903.5	1913.1
5°	1885.9	1881.5	1886.6	1881.0	1926.3
7.5°	1847.1	1864.0	1873.9	1867.7	1870.4
10°	1826.5	1820.6	1842.5	1857.7	1855.5
12.5°	1804.5	1813.3	1814.5	1830.9	1832.4
15°	1805.7	1784.8	1795.9	1805.2	1805.9
17.5°	1735.5	1758.1	1765.7	1787.0	1760.6
20°	1727.0	1710.5	1727.0	1748.8	1745.4
22.5°	1674.2	1655.8	1691.2	1710.5	1709.3
25°	1614.4	1623.2	1649.7	1671.3	1667.9
27.5°	1561.9	1572.2	1610.0	1639.7	1620.5
30°	1521.5	1516.3	1548.2	1574.7	1589.4
32.5°	1449.1	1467.7	1505.0	1531.3	1517.3
35°	1405.2	1409.4	1442.0	1475.3	1474.4
37.5°	1328.4	1347.8	1393.7	1403.0	1394.4
40°	1263.0	1282.3	1323.8	1333.8	1329.7
42.5°	1214.7	1218.1	1253.7	1265.2	1246.8
45°	1130.5	1151.6	1170.8	1200.9	1172.5
47.5°	1058.9	1068.7	1109.9	1118.0	1103.1
50°	993.9	997.4	1038.8	1028.8	1019.0
52.5°	912.3	926.8	950.0	948.1	936.6
55°	845.1	839.4	861.5	855.6	855.4
57.5°	764.4	774.2	792.4	783.0	768.1
60°	688.9	689.1	695.7	685.2	683.2
62.5°	604.8	607.7	609.2	596.2	617.3
65°	519.2	512.3	532.4	512.1	515.5
67.5°	440.4	443.9	441.9	429.2	434.1
70°	360.5	364.9	361.7	347.3	351.7
72.5°	287.4	282.0	285.5	267.3	275.6
75°	216.1	211.6	215.6	200.4	207.2
77.5°	147.1	150.6	148.1	140.0	144.7
80°	97.1	94.4	94.4	89.8	90.7
82.5°	56.6	54.0	53.2	51.7	54.0
85°	26.5	25.7	26.2	25.5	24.5
87.5°	9.6	9.8	9.8	9.3	8.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)