

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: P589012

Luminaire Tested: **FMR-24-2-LD4-2HI-35-UNV-93-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589012  
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-35-UNV-93-97-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

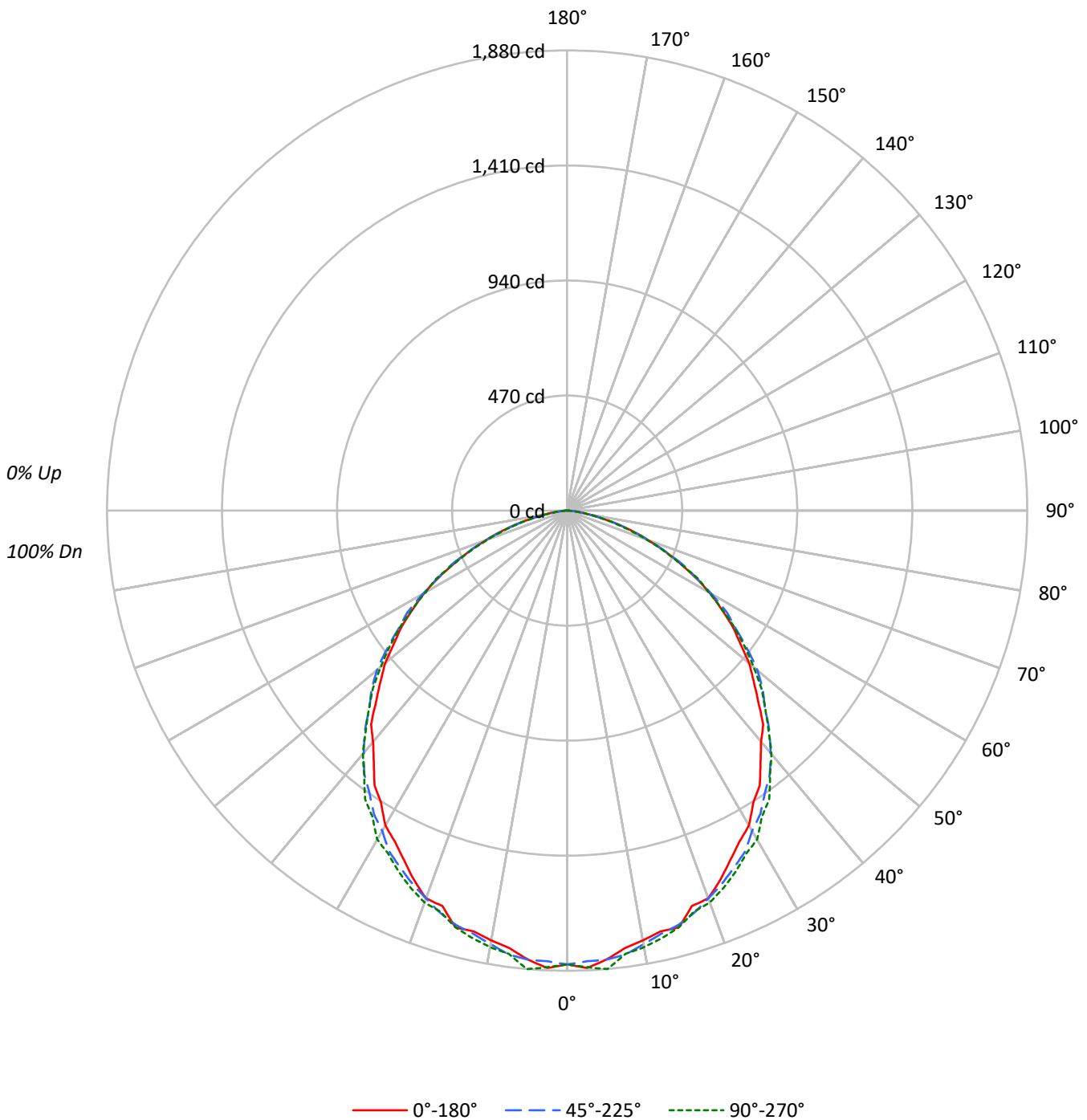
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4673.0 lumens  
Efficiency: N/A  
Efficacy: 108.2 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 (A<sub>in</sub>): 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°	4989	4989	4989
5°	4973	4975	5080
10°	4872	4915	4949
15°	4911	4884	4911
20°	4828	4828	4879
25°	4679	4782	4834
30°	4615	4696	4821
35°	4506	4624	4728
40°	4331	4540	4560
45°	4200	4349	4356
50°	4062	4245	4164
55°	3871	3946	3917
60°	3619	3655	3590
65°	3227	3309	3204
70°	2769	2778	2701
75°	2193	2188	2103
80°	1469	1429	1373
85°	800	790	738



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.4	3.7
10°-20°	494.3	10.6
20°-30°	740.6	15.8
30°-40°	877.7	18.8
40°-50°	879.3	18.8
50°-60°	746.4	16.0
60°-70°	503.2	10.8
70°-80°	221.1	4.7
80°-90°	35.9	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°	1409.3	30.2
0°-40°	2287.0	48.9
0°-60°	3912.7	83.7
0°-90°	4673.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4673.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1854	1854	1854	1854	1854	
5°	1841	1837	1842	1836	1880	174
15°	1763	1742	1753	1762	1763	491
25°	1576	1585	1610	1632	1628	729
35°	1372	1376	1408	1440	1439	852
45°	1104	1124	1143	1172	1145	854
55°	825	820	841	835	835	734
65°	507	500	520	500	503	504
75°	211	207	210	196	202	226
85°	26	25	26	25	24	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1854.1	1854.1	1854.1	1854.1	1854.1
2.5°	1870.2	1856.0	1842.9	1858.2	1867.5
5°	1841.0	1836.7	1841.7	1836.2	1880.5
7.5°	1803.1	1819.7	1829.2	1823.2	1825.9
10°	1783.0	1777.3	1798.6	1813.4	1811.3
12.5°	1761.5	1770.1	1771.3	1787.3	1788.8
15°	1762.7	1742.3	1753.1	1762.2	1762.9
17.5°	1694.2	1716.2	1723.7	1744.5	1718.6
20°	1685.8	1669.8	1685.8	1707.1	1703.8
22.5°	1634.4	1616.4	1650.9	1669.8	1668.6
25°	1575.9	1584.6	1610.4	1631.5	1628.1
27.5°	1524.7	1534.8	1571.6	1600.6	1581.9
30°	1485.2	1480.2	1511.3	1537.2	1551.5
32.5°	1414.6	1432.8	1469.2	1494.8	1481.1
35°	1371.7	1375.8	1407.7	1440.2	1439.3
37.5°	1296.8	1315.7	1360.5	1369.6	1361.2
40°	1232.9	1251.8	1292.3	1302.1	1298.0
42.5°	1185.7	1189.1	1223.8	1235.0	1217.1
45°	1103.6	1124.2	1142.9	1172.3	1144.6
47.5°	1033.7	1043.3	1083.5	1091.4	1076.8
50°	970.3	973.6	1014.1	1004.3	994.7
52.5°	890.6	904.7	927.4	925.5	914.3
55°	825.0	819.5	841.0	835.3	835.0
57.5°	746.2	755.8	773.5	764.4	749.8
60°	672.5	672.7	679.2	668.9	667.0
62.5°	590.4	593.2	594.7	582.0	602.6
65°	506.8	500.1	519.7	499.9	503.2
67.5°	430.0	433.3	431.4	418.9	423.7
70°	351.9	356.2	353.1	339.0	343.3
72.5°	280.6	275.3	278.7	260.9	269.1
75°	210.9	206.6	210.4	195.6	202.3
77.5°	143.6	147.0	144.6	136.7	141.2
80°	94.8	92.2	92.2	87.6	88.6
82.5°	55.3	52.7	51.9	50.5	52.7
85°	25.9	25.1	25.6	24.9	23.9
87.5°	9.3	9.6	9.6	9.1	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)