

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: P589215

Luminaire Tested: **FMR-24-2-LD4-2STD-40-UNV-81-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589215  
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-LD4-2STD-40-UNV-81-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

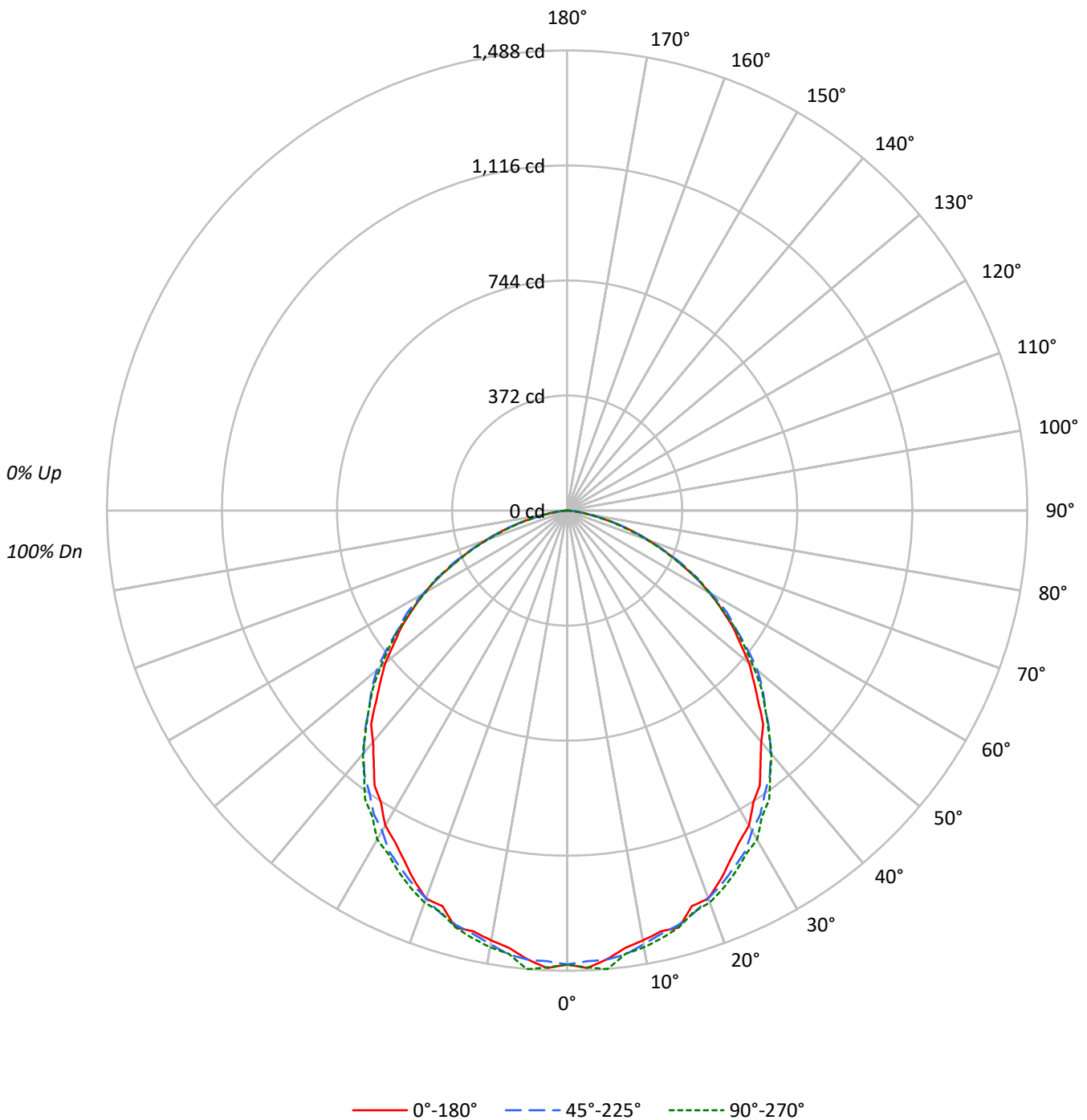
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3699.0 lumens  
Efficiency: N/A  
Efficacy: 111.1 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): 33.3  
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°	3950	3950	3950
5°	3936	3938	4021
10°	3857	3890	3918
15°	3887	3866	3888
20°	3822	3822	3862
25°	3704	3785	3827
30°	3653	3717	3816
35°	3567	3661	3743
40°	3428	3593	3609
45°	3325	3443	3448
50°	3215	3360	3296
55°	3064	3123	3101
60°	2865	2893	2841
65°	2555	2620	2536
70°	2192	2199	2138
75°	1735	1732	1665
80°	1162	1131	1086
85°	633	627	584



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.1	3.7
10°-20°	391.3	10.6
20°-30°	586.2	15.8
30°-40°	694.8	18.8
40°-50°	696.1	18.8
50°-60°	590.8	16.0
60°-70°	398.3	10.8
70°-80°	175.0	4.7
80°-90°	28.5	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°	1115.5	30.2
0°-40°	1810.3	48.9
0°-60°	3097.2	83.7
0°-90°	3699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3699.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1457	1454	1458	1454	1488	137
15°	1395	1379	1388	1395	1396	389
25°	1248	1254	1275	1291	1289	577
35°	1086	1089	1114	1140	1139	674
45°	874	890	905	928	906	676
55°	653	649	666	661	661	581
65°	401	396	411	396	398	399
75°	167	164	167	155	160	179
85°	20	20	20	20	19	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1467.7	1467.7	1467.7	1467.7	1467.7
2.5°	1480.4	1469.2	1458.8	1470.9	1478.3
5°	1457.2	1453.8	1457.8	1453.5	1488.5
7.5°	1427.3	1440.4	1448.0	1443.2	1445.3
10°	1411.4	1406.8	1423.7	1435.5	1433.7
12.5°	1394.3	1401.2	1402.1	1414.8	1415.9
15°	1395.3	1379.2	1387.7	1394.9	1395.5
17.5°	1341.1	1358.5	1364.4	1380.9	1360.4
20°	1334.5	1321.8	1334.5	1351.3	1348.7
22.5°	1293.7	1279.5	1306.8	1321.8	1320.8
25°	1247.5	1254.3	1274.8	1291.4	1288.8
27.5°	1206.9	1214.9	1244.1	1267.0	1252.2
30°	1175.7	1171.7	1196.3	1216.8	1228.1
32.5°	1119.7	1134.2	1163.0	1183.2	1172.4
35°	1085.8	1089.1	1114.3	1140.0	1139.3
37.5°	1026.5	1041.5	1076.9	1084.1	1077.5
40°	975.9	990.9	1022.9	1030.7	1027.5
42.5°	938.6	941.2	968.7	977.6	963.4
45°	873.6	889.9	904.7	928.0	906.0
47.5°	818.3	825.8	857.7	863.9	852.4
50°	768.0	770.7	802.7	794.9	787.4
52.5°	704.9	716.1	734.1	732.6	723.7
55°	653.0	648.7	665.7	661.2	661.0
57.5°	590.7	598.2	612.3	605.1	593.5
60°	532.3	532.5	537.6	529.5	527.9
62.5°	467.3	469.6	470.7	460.7	477.0
65°	401.2	395.9	411.4	395.7	398.3
67.5°	340.3	343.0	341.5	331.6	335.4
70°	278.6	282.0	279.5	268.3	271.7
72.5°	222.1	217.9	220.6	206.6	213.0
75°	166.9	163.5	166.6	154.8	160.1
77.5°	113.7	116.4	114.5	108.2	111.8
80°	75.0	73.0	73.0	69.4	70.1
82.5°	43.8	41.7	41.1	40.0	41.7
85°	20.5	19.9	20.3	19.7	18.9
87.5°	7.4	7.6	7.6	7.2	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)