

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: P589256

Luminaire Tested: **FMR-24-2-LD4-2STD-50-UNV-82-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589256  
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-50-UNV-82-87-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

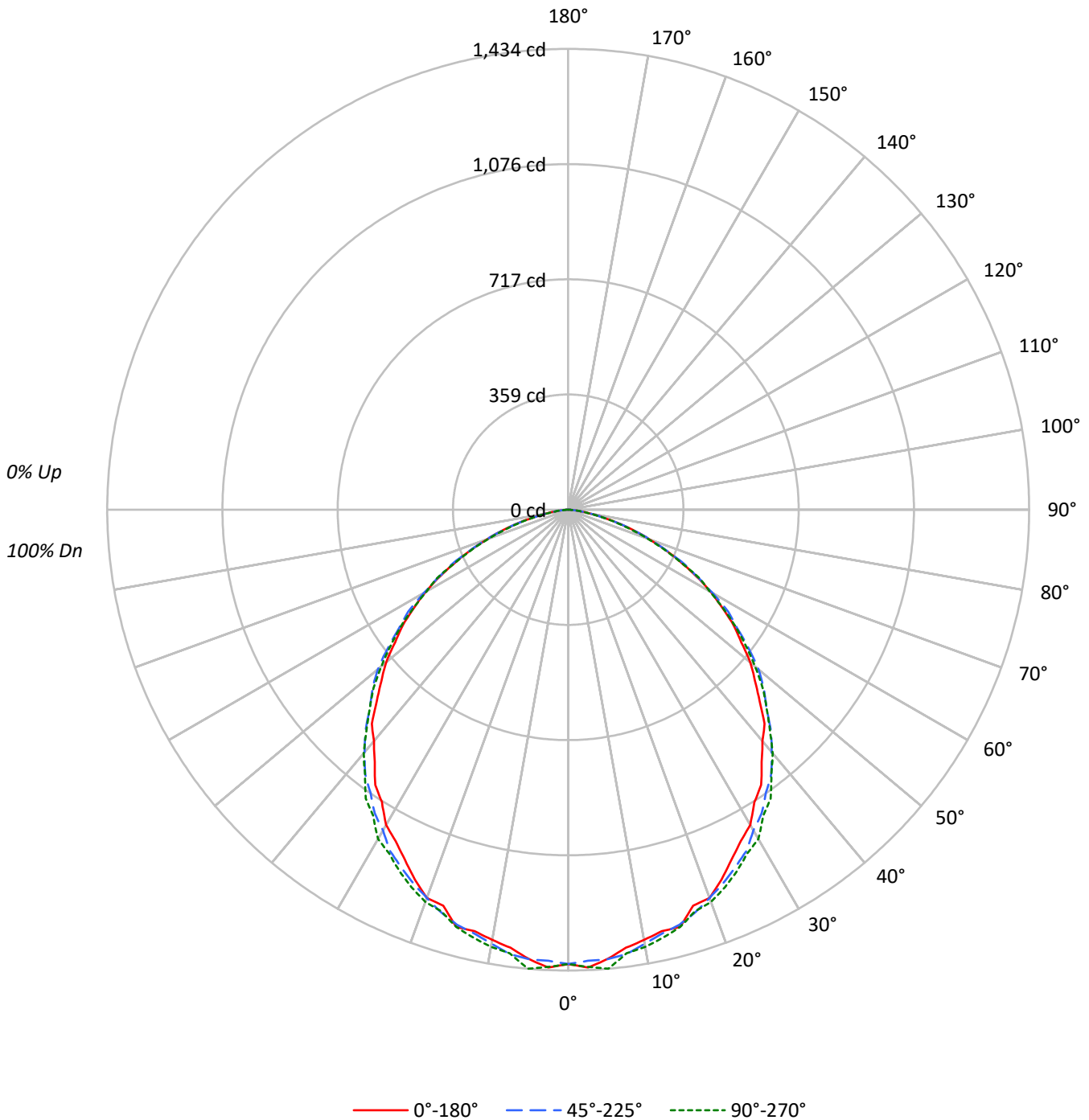
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3563.0 lumens  
Efficiency: N/A  
Efficacy: 107.0 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°	3804	3804	3804
5°	3792	3793	3873
10°	3715	3747	3774
15°	3744	3724	3745
20°	3681	3681	3720
25°	3568	3646	3686
30°	3519	3581	3676
35°	3436	3526	3605
40°	3302	3461	3477
45°	3202	3316	3321
50°	3097	3237	3175
55°	2951	3008	2987
60°	2759	2787	2737
65°	2460	2523	2443
70°	2111	2118	2060
75°	1672	1668	1603
80°	1120	1089	1046
85°	608	602	565



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.0	3.7
10°-20°	376.9	10.6
20°-30°	564.7	15.8
30°-40°	669.2	18.8
40°-50°	670.5	18.8
50°-60°	569.1	16.0
60°-70°	383.7	10.8
70°-80°	168.6	4.7
80°-90°	27.4	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°	1074.5	30.2
0°-40°	1743.7	48.9
0°-60°	2983.3	83.7
0°-90°	3563.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3563.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1414	1414	1414	1414	1414	
5°	1404	1400	1404	1400	1434	132
15°	1344	1328	1337	1344	1344	374
25°	1202	1208	1228	1244	1241	555
35°	1046	1049	1073	1098	1097	649
45°	842	857	871	894	873	651
55°	629	625	641	637	637	560
65°	386	381	396	381	384	384
75°	161	158	160	149	154	172
85°	20	19	20	19	18	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1413.7	1413.7	1413.7	1413.7	1413.7
2.5°	1425.9	1415.2	1405.1	1416.8	1423.9
5°	1403.7	1400.4	1404.2	1400.0	1433.8
7.5°	1374.8	1387.4	1394.7	1390.2	1392.2
10°	1359.5	1355.1	1371.4	1382.7	1381.0
12.5°	1343.1	1349.6	1350.6	1362.8	1363.9
15°	1344.0	1328.5	1336.7	1343.6	1344.2
17.5°	1291.8	1308.6	1314.2	1330.1	1310.4
20°	1285.4	1273.2	1285.4	1301.6	1299.1
22.5°	1246.1	1232.5	1258.7	1273.2	1272.2
25°	1201.6	1208.2	1227.9	1244.0	1241.4
27.5°	1162.5	1170.2	1198.3	1220.4	1206.2
30°	1132.4	1128.6	1152.3	1172.0	1183.0
32.5°	1078.6	1092.5	1120.2	1139.7	1129.3
35°	1045.9	1049.0	1073.3	1098.1	1097.4
37.5°	988.8	1003.2	1037.3	1044.3	1037.9
40°	940.0	954.5	985.3	992.8	989.7
42.5°	904.1	906.6	933.1	941.7	928.0
45°	841.5	857.2	871.4	893.9	872.7
47.5°	788.2	795.5	826.1	832.2	821.0
50°	739.8	742.4	773.2	765.7	758.4
52.5°	679.0	689.8	707.1	705.7	697.1
55°	629.0	624.8	641.2	636.9	636.7
57.5°	569.0	576.3	589.8	582.8	571.7
60°	512.7	512.9	517.8	510.0	508.5
62.5°	450.1	452.3	453.4	443.7	459.4
65°	386.4	381.3	396.3	381.1	383.7
67.5°	327.8	330.4	328.9	319.4	323.1
70°	268.3	271.6	269.2	258.5	261.8
72.5°	213.9	209.9	212.5	199.0	205.2
75°	160.8	157.5	160.4	149.1	154.2
77.5°	109.5	112.1	110.2	104.2	107.7
80°	72.3	70.3	70.3	66.8	67.5
82.5°	42.2	40.2	39.6	38.5	40.2
85°	19.7	19.2	19.5	19.0	18.3
87.5°	7.1	7.3	7.3	6.9	6.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)