

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: P546635

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-82-88-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P546635
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-4-LD4-1STD-40-UNV-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

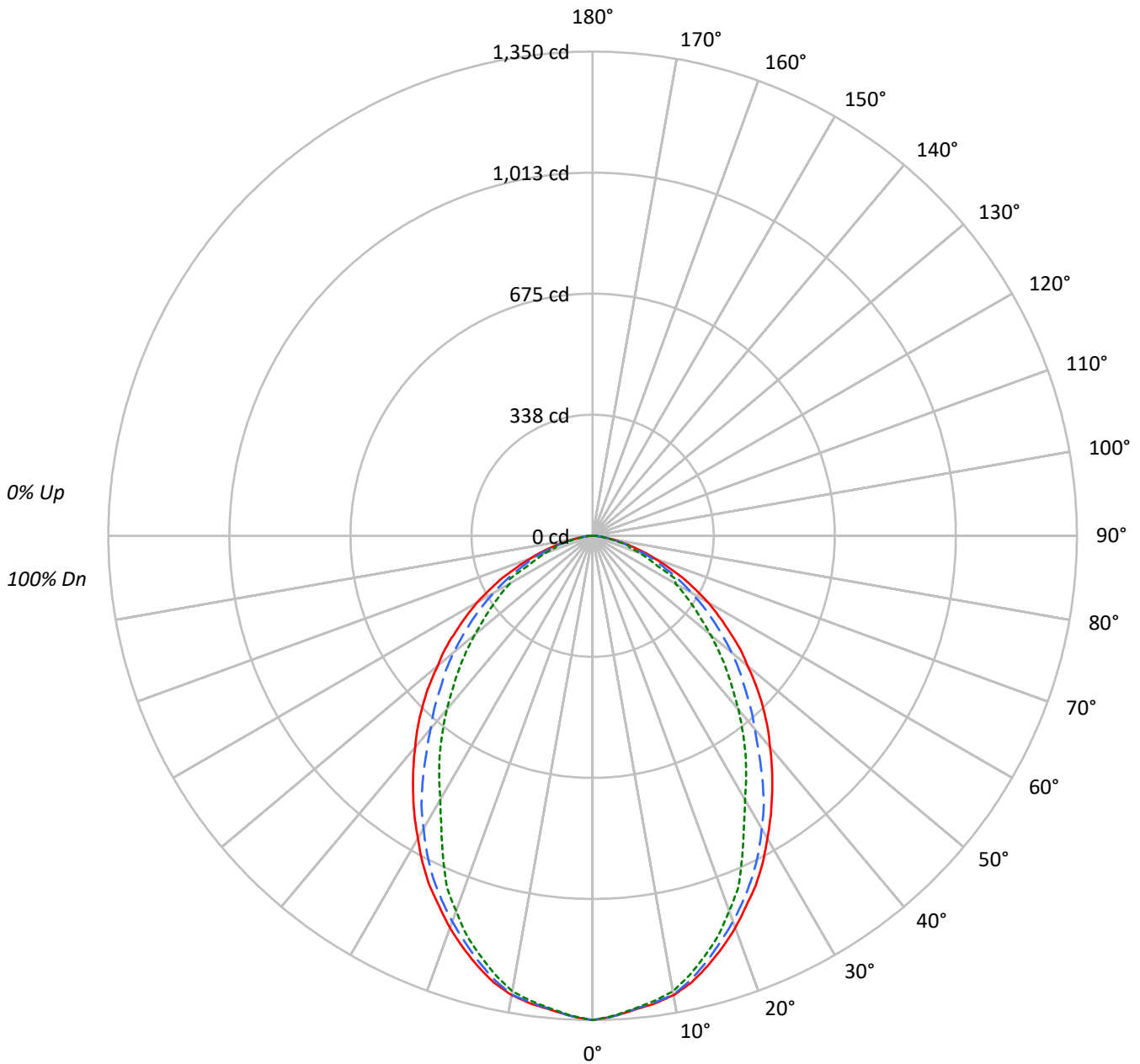
Lumens per Lamp: N/A
Luminaire Lumens: 2651.0 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1817	1817	1817
5°	1792	1790	1788
10°	1777	1775	1762
15°	1729	1711	1687
20°	1665	1638	1594
25°	1597	1562	1465
30°	1513	1465	1320
35°	1433	1354	1221
40°	1352	1234	1111
45°	1274	1141	1004
50°	1180	1059	895
55°	1091	959	802
60°	1000	857	718
65°	880	750	636
70°	725	657	541
75°	576	503	528
80°	387	363	339
85°	241	289	338



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.7	4.7
10°-20°	345.0	13.0
20°-30°	477.6	18.0
30°-40°	509.3	19.2
40°-50°	464.6	17.5
50°-60°	364.0	13.7
60°-70°	237.2	8.9
70°-80°	105.1	4.0
80°-90°	22.6	0.9
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°	948.3	35.8
0°-40°	1457.5	55.0
0°-60°	2286.1	86.2
0°-90°	2651.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2651.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1350	1350	1350	1350	1350	
5°	1327	1325	1325	1324	1324	126
15°	1241	1241	1229	1216	1211	349
25°	1076	1069	1052	1015	987	494
35°	873	866	824	762	743	546
45°	670	656	600	550	528	516
55°	465	451	409	361	342	417
65°	276	261	236	240	200	272
75°	111	103	97	92	102	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1350.4	1350.4	1350.4	1350.4	1350.4
2.5°	1341.0	1341.0	1341.0	1339.5	1339.5
5°	1327.0	1325.4	1325.4	1323.8	1323.8
7.5°	1316.0	1314.5	1312.9	1311.4	1308.2
10°	1300.4	1300.4	1298.9	1291.1	1289.5
12.5°	1275.4	1273.9	1267.6	1256.7	1253.6
15°	1241.1	1241.1	1228.6	1216.1	1211.4
17.5°	1203.6	1202.1	1186.5	1174.0	1167.7
20°	1163.0	1159.9	1144.3	1124.0	1113.1
22.5°	1117.8	1117.8	1099.0	1072.5	1061.6
25°	1075.6	1069.4	1052.2	1014.7	986.6
27.5°	1027.2	1017.9	999.1	946.0	913.3
30°	974.1	969.5	942.9	874.2	849.3
32.5°	924.2	916.4	888.3	816.5	796.2
35°	872.7	866.4	824.3	761.8	743.1
37.5°	821.2	813.4	760.3	710.3	686.9
40°	769.6	760.3	702.5	657.2	632.3
42.5°	721.2	708.8	652.6	604.2	576.1
45°	669.7	655.7	599.5	549.5	527.7
47.5°	618.2	605.7	554.2	502.7	477.7
50°	563.6	552.6	505.8	454.3	427.8
52.5°	518.3	501.1	455.9	404.3	382.5
55°	465.2	451.2	409.0	360.6	341.9
57.5°	416.8	402.8	363.7	318.5	302.9
60°	371.6	351.3	318.5	279.4	267.0
62.5°	321.6	306.0	277.9	245.1	260.7
65°	276.3	260.7	235.7	240.4	199.8
67.5°	226.4	218.6	196.7	174.8	168.6
70°	184.2	174.8	167.0	143.6	137.4
72.5°	146.7	137.4	126.5	114.0	109.3
75°	110.8	103.0	96.8	92.1	101.5
77.5°	76.5	73.4	68.7	64.0	62.4
80°	50.0	48.4	46.8	45.3	43.7
82.5°	29.7	29.7	29.7	29.7	29.7
85°	15.6	17.2	18.7	20.3	21.9
87.5°	9.4	9.4	10.9	12.5	14.1
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)