

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: P546651

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-80-88-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: P546651
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-50-UNV-80-88-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

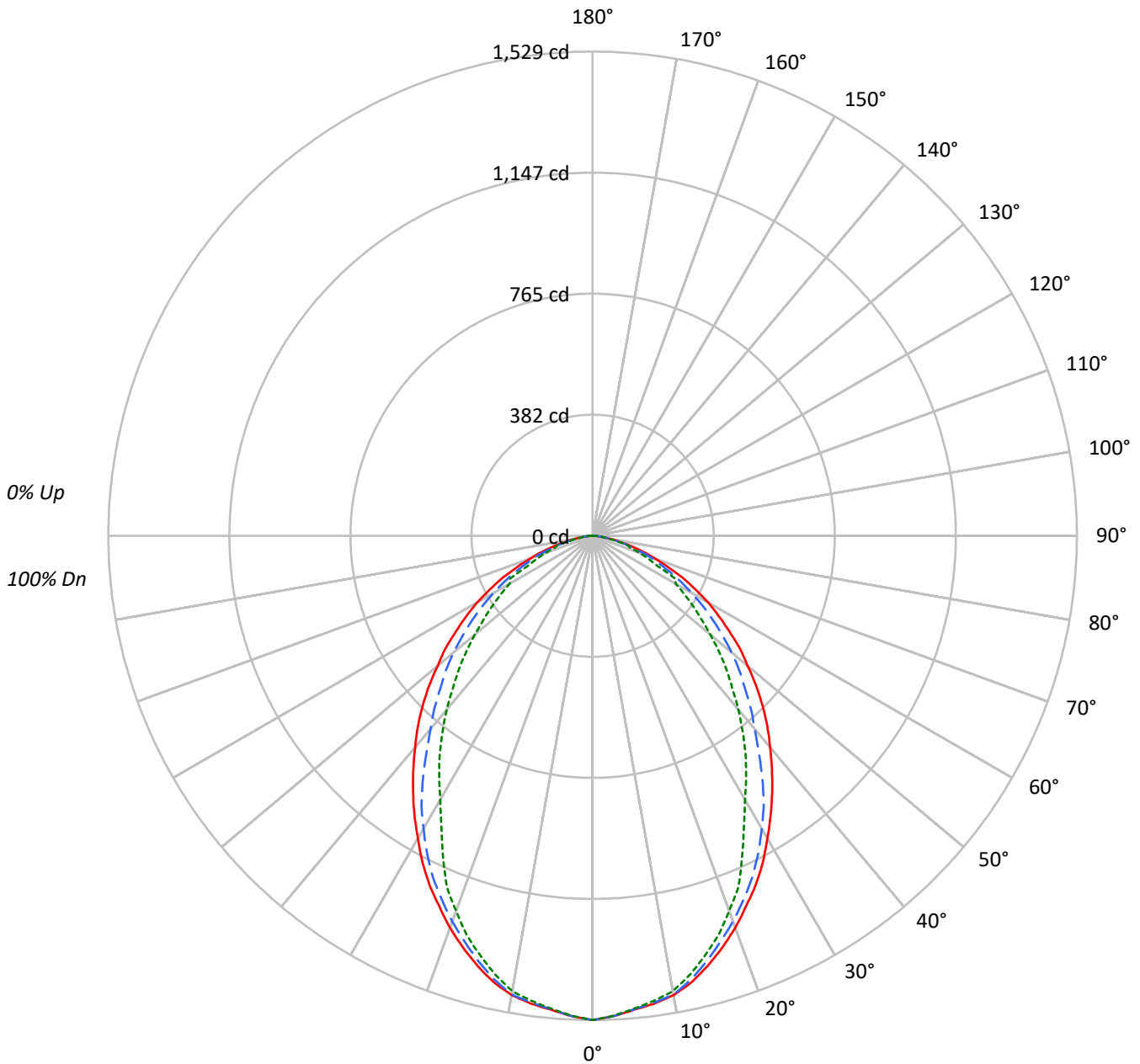
Lumens per Lamp: N/A
Luminaire Lumens: 3002.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2058	2058	2058
5°	2030	2027	2025
10°	2012	2009	1995
15°	1958	1938	1911
20°	1886	1855	1805
25°	1808	1769	1659
30°	1714	1659	1494
35°	1623	1533	1382
40°	1531	1397	1258
45°	1443	1292	1137
50°	1336	1199	1014
55°	1236	1087	908
60°	1132	970	813
65°	996	850	720
70°	821	744	612
75°	652	570	597
80°	439	411	384
85°	273	327	381



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.3	4.7
10°-20°	390.7	13.0
20°-30°	540.8	18.0
30°-40°	576.7	19.2
40°-50°	526.1	17.5
50°-60°	412.2	13.7
60°-70°	268.6	8.9
70°-80°	119.0	4.0
80°-90°	25.5	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°	1073.8	35.8
0°-40°	1650.5	55.0
0°-60°	2588.8	86.2
0°-90°	3002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3002.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1529	1529	1529	1529	1529	
5°	1503	1501	1501	1499	1499	143
15°	1405	1405	1391	1377	1372	395
25°	1218	1211	1192	1149	1117	559
35°	988	981	933	863	842	618
45°	758	742	679	622	598	584
55°	527	511	463	408	387	473
65°	313	295	267	272	226	308
75°	126	117	110	104	115	135
85°	18	19	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1529.2	1529.2	1529.2	1529.2	1529.2
2.5°	1518.6	1518.6	1518.6	1516.8	1516.8
5°	1502.7	1500.9	1500.9	1499.1	1499.1
7.5°	1490.3	1488.5	1486.8	1485.0	1481.4
10°	1472.6	1472.6	1470.8	1462.0	1460.2
12.5°	1444.3	1442.6	1435.5	1423.1	1419.6
15°	1405.4	1405.4	1391.3	1377.1	1371.8
17.5°	1363.0	1361.2	1343.6	1329.4	1322.3
20°	1317.0	1313.5	1295.8	1272.8	1260.5
22.5°	1265.8	1265.8	1244.6	1214.5	1202.1
25°	1218.0	1211.0	1191.5	1149.1	1117.3
27.5°	1163.2	1152.6	1131.4	1071.3	1034.2
30°	1103.1	1097.8	1067.8	990.0	961.7
32.5°	1046.6	1037.7	1005.9	924.6	901.6
35°	988.2	981.1	933.4	862.7	841.5
37.5°	929.9	921.0	860.9	804.4	777.8
40°	871.5	860.9	795.5	744.3	716.0
42.5°	816.7	802.6	739.0	684.2	652.3
45°	758.4	742.5	678.8	622.3	597.5
47.5°	700.1	685.9	627.6	569.2	541.0
50°	638.2	625.8	572.8	514.4	484.4
52.5°	586.9	567.5	516.2	457.9	433.1
55°	526.8	510.9	463.2	408.4	387.2
57.5°	472.0	456.1	411.9	360.6	343.0
60°	420.7	397.8	360.6	316.4	302.3
62.5°	364.2	346.5	314.7	277.6	295.2
65°	312.9	295.2	266.9	272.2	226.3
67.5°	256.3	247.5	222.7	198.0	190.9
70°	208.6	198.0	189.2	162.6	155.6
72.5°	166.2	155.6	143.2	129.1	123.7
75°	125.5	116.7	109.6	104.3	114.9
77.5°	86.6	83.1	77.8	72.5	70.7
80°	56.6	54.8	53.0	51.3	49.5
82.5°	33.6	33.6	33.6	33.6	33.6
85°	17.7	19.4	21.2	23.0	24.7
87.5°	10.6	10.6	12.4	14.1	15.9
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)