

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: P546661

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-81-96-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: P546661
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-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

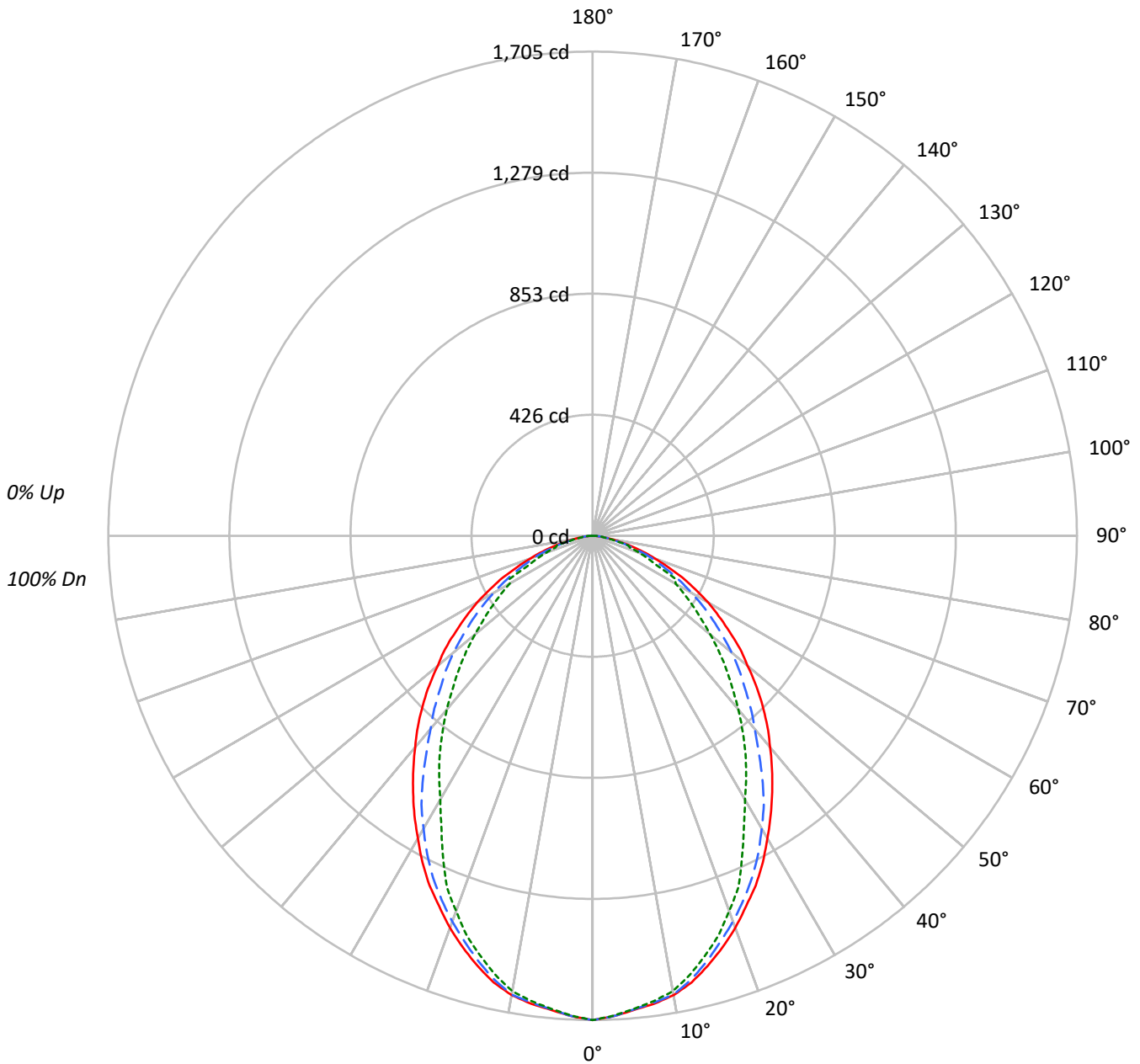
Lumens per Lamp: N/A
Luminaire Lumens: 3348.0 lumens
Efficiency: N/A
Efficacy: 100.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2295	2295	2295
5°	2264	2261	2258
10°	2244	2241	2225
15°	2183	2161	2131
20°	2103	2069	2013
25°	2017	1973	1850
30°	1911	1850	1666
35°	1810	1710	1542
40°	1707	1558	1402
45°	1609	1441	1268
50°	1490	1337	1131
55°	1378	1212	1013
60°	1263	1082	907
65°	1111	948	804
70°	915	830	683
75°	728	635	666
80°	489	458	428
85°	304	366	426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.8	4.7
10°-20°	435.7	13.0
20°-30°	603.2	18.0
30°-40°	643.2	19.2
40°-50°	586.7	17.5
50°-60°	459.7	13.7
60°-70°	299.6	8.9
70°-80°	132.7	4.0
80°-90°	28.5	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°	1197.6	35.8
0°-40°	1840.8	55.0
0°-60°	2887.2	86.2
0°-90°	3348.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3348.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1705	1705	1705	1705	1705	
5°	1676	1674	1674	1672	1672	159
15°	1567	1567	1552	1536	1530	441
25°	1358	1350	1329	1282	1246	624
35°	1102	1094	1041	962	938	689
45°	846	828	757	694	666	652
55°	588	570	517	455	432	527
65°	349	329	298	304	252	344
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1705.4	1705.4	1705.4	1705.4	1705.4
2.5°	1693.6	1693.6	1693.6	1691.6	1691.6
5°	1675.9	1673.9	1673.9	1671.9	1671.9
7.5°	1662.1	1660.1	1658.1	1656.1	1652.2
10°	1642.3	1642.3	1640.4	1630.5	1628.5
12.5°	1610.8	1608.8	1600.9	1587.1	1583.2
15°	1567.4	1567.4	1551.6	1535.9	1530.0
17.5°	1520.1	1518.1	1498.4	1482.6	1474.8
20°	1468.8	1464.9	1445.2	1419.5	1405.7
22.5°	1411.7	1411.7	1388.0	1354.5	1340.7
25°	1358.4	1350.5	1328.9	1281.5	1246.0
27.5°	1297.3	1285.5	1261.8	1194.8	1153.4
30°	1230.3	1224.4	1190.8	1104.1	1072.5
32.5°	1167.2	1157.3	1121.8	1031.1	1005.5
35°	1102.1	1094.2	1041.0	962.1	938.5
37.5°	1037.1	1027.2	960.2	897.1	867.5
40°	972.0	960.2	887.2	830.0	798.5
42.5°	910.9	895.1	824.1	763.0	727.5
45°	845.8	828.1	757.1	694.0	666.4
47.5°	780.8	765.0	699.9	634.9	603.3
50°	711.7	697.9	638.8	573.7	540.2
52.5°	654.6	632.9	575.7	510.6	483.0
55°	587.5	569.8	516.6	455.4	431.8
57.5°	526.4	508.7	459.4	402.2	382.5
60°	469.2	443.6	402.2	352.9	337.1
62.5°	406.1	386.4	350.9	309.5	329.3
65°	349.0	329.3	297.7	303.6	252.4
67.5°	285.9	276.0	248.4	220.8	212.9
70°	232.6	220.8	211.0	181.4	173.5
72.5°	185.3	173.5	159.7	143.9	138.0
75°	140.0	130.1	122.2	116.3	128.2
77.5°	96.6	92.7	86.8	80.8	78.9
80°	63.1	61.1	59.1	57.2	55.2
82.5°	37.5	37.5	37.5	37.5	37.5
85°	19.7	21.7	23.7	25.6	27.6
87.5°	11.8	11.8	13.8	15.8	17.7
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)