

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: P546666

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-82-87-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: P546666
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-82-87-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

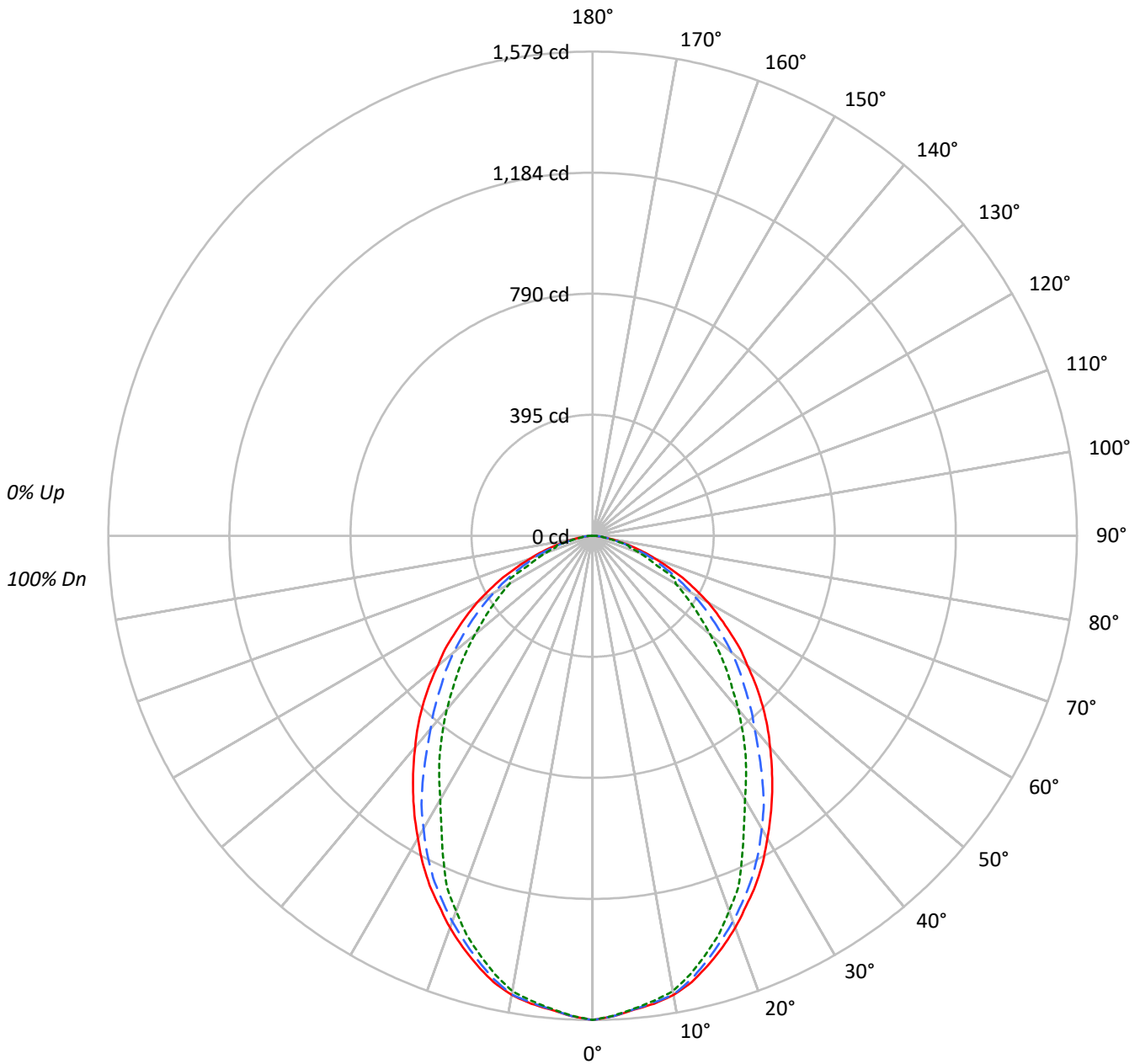
Lumens per Lamp: N/A
Luminaire Lumens: 3100.0 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	2125	2125	2125
5°	2096	2093	2091
10°	2078	2075	2060
15°	2022	2001	1973
20°	1947	1916	1864
25°	1867	1827	1713
30°	1770	1713	1543
35°	1676	1583	1427
40°	1581	1443	1299
45°	1490	1334	1174
50°	1379	1238	1047
55°	1276	1122	938
60°	1169	1002	840
65°	1029	878	744
70°	847	768	632
75°	674	588	617
80°	453	425	396
85°	283	338	395



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.0	4.7
10°-20°	403.4	13.0
20°-30°	558.5	18.0
30°-40°	595.5	19.2
40°-50°	543.3	17.5
50°-60°	425.6	13.7
60°-70°	277.4	8.9
70°-80°	122.9	4.0
80°-90°	26.4	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°	1108.9	35.8
0°-40°	1704.4	55.0
0°-60°	2673.3	86.2
0°-90°	3100.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3100.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1579	1579	1579	1579	1579	
5°	1552	1550	1550	1548	1548	147
15°	1451	1451	1437	1422	1417	408
25°	1258	1250	1230	1187	1154	577
35°	1020	1013	964	891	869	638
45°	783	767	701	643	617	603
55°	544	528	478	422	400	488
65°	323	305	276	281	234	318
75°	130	120	113	108	119	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1579.1	1579.1	1579.1	1579.1	1579.1
2.5°	1568.1	1568.1	1568.1	1566.3	1566.3
5°	1551.7	1549.9	1549.9	1548.1	1548.1
7.5°	1538.9	1537.1	1535.3	1533.5	1529.8
10°	1520.7	1520.7	1518.9	1509.7	1507.9
12.5°	1491.5	1489.6	1482.3	1469.6	1465.9
15°	1451.3	1451.3	1436.7	1422.1	1416.6
17.5°	1407.5	1405.7	1387.4	1372.8	1365.5
20°	1360.0	1356.4	1338.1	1314.4	1301.6
22.5°	1307.1	1307.1	1285.2	1254.2	1241.4
25°	1257.8	1250.5	1230.4	1186.6	1153.7
27.5°	1201.2	1190.3	1168.4	1106.3	1067.9
30°	1139.1	1133.7	1102.6	1022.3	993.1
32.5°	1080.7	1071.6	1038.7	954.8	931.0
35°	1020.5	1013.2	963.9	890.9	869.0
37.5°	960.2	951.1	889.0	830.6	803.2
40°	900.0	889.0	821.5	768.6	739.3
42.5°	843.4	828.8	763.1	706.5	673.6
45°	783.2	766.7	701.0	642.6	617.0
47.5°	722.9	708.3	648.1	587.8	558.6
50°	659.0	646.2	591.5	531.2	500.2
52.5°	606.1	586.0	533.1	472.8	447.3
55°	544.0	527.6	478.3	421.7	399.8
57.5°	487.4	471.0	425.4	372.4	354.2
60°	434.5	410.7	372.4	326.8	312.2
62.5°	376.1	357.8	324.9	286.6	304.9
65°	323.1	304.9	275.7	281.1	233.7
67.5°	264.7	255.6	230.0	204.5	197.2
70°	215.4	204.5	195.3	168.0	160.6
72.5°	171.6	160.6	147.9	133.3	127.8
75°	129.6	120.5	113.2	107.7	118.7
77.5°	89.5	85.8	80.3	74.8	73.0
80°	58.4	56.6	54.8	52.9	51.1
82.5°	34.7	34.7	34.7	34.7	34.7
85°	18.3	20.1	21.9	23.7	25.6
87.5°	11.0	11.0	12.8	14.6	16.4
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)