

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: P547011

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-81-88-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: P547011
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-LD4-3HI-40-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 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

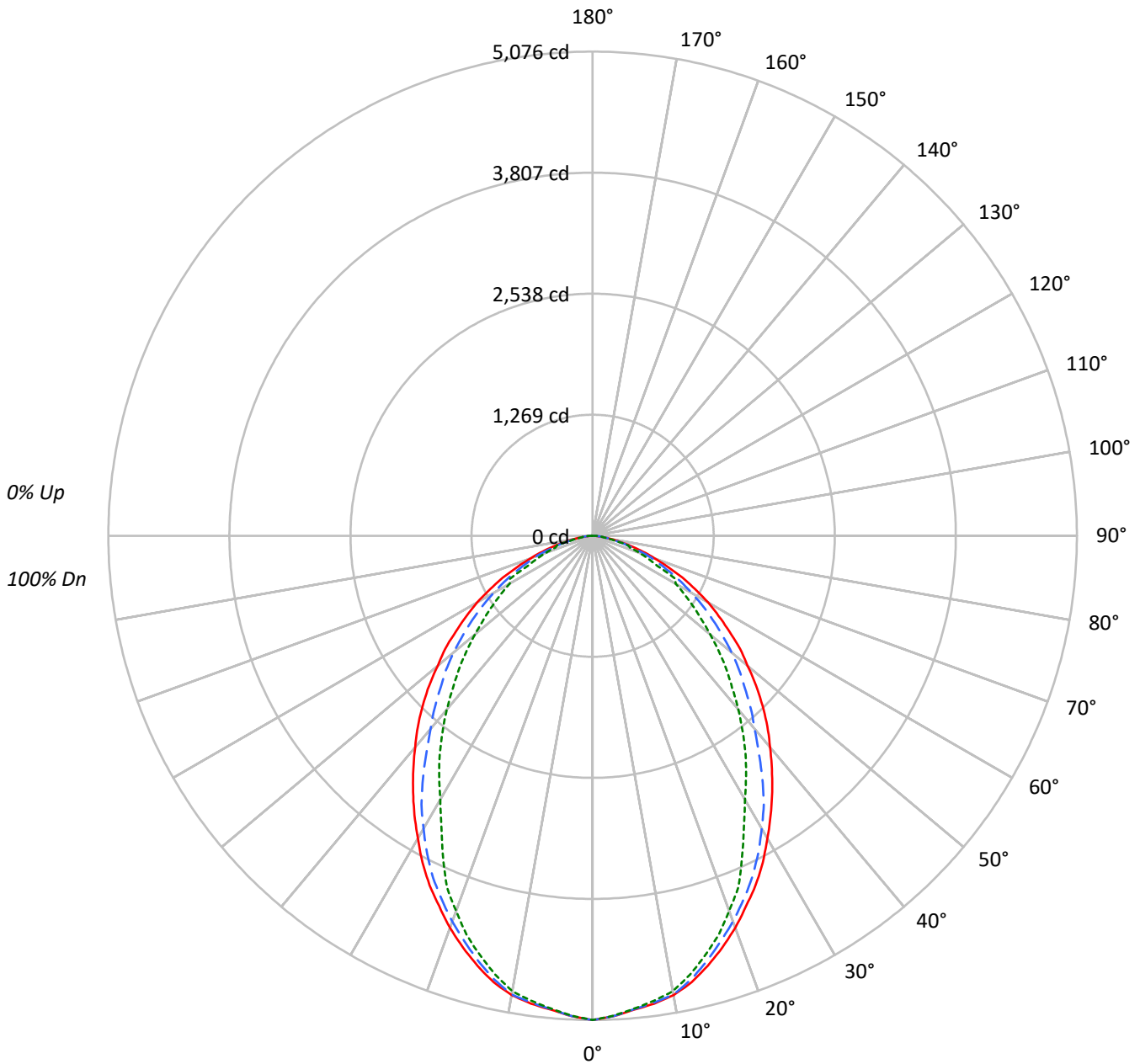
Lumens per Lamp: N/A
Luminaire Lumens: 9966.0 lumens
Efficiency: N/A
Efficacy: 76.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
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°	6830	6830	6830
5°	6738	6730	6722
10°	6679	6671	6623
15°	6499	6434	6344
20°	6260	6160	5992
25°	6003	5872	5506
30°	5690	5507	4960
35°	5389	5090	4589
40°	5082	4639	4175
45°	4791	4288	3775
50°	4435	3980	3366
55°	4103	3607	3015
60°	3759	3222	2701
65°	3307	2821	2392
70°	2724	2471	2032
75°	2166	1892	1983
80°	1455	1364	1273
85°	906	1087	1269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	472.6	4.7
10°-20°	1296.9	13.0
20°-30°	1795.5	18.0
30°-40°	1914.5	19.2
40°-50°	1746.6	17.5
50°-60°	1368.3	13.7
60°-70°	891.8	8.9
70°-80°	395.1	4.0
80°-90°	84.8	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°	3564.9	35.8
0°-40°	5479.4	55.0
0°-60°	8594.3	86.2
0°-90°	9966.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9966.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5076	5076	5076	5076	5076	
5°	4988	4983	4983	4977	4977	474
15°	4666	4666	4619	4572	4554	1312
25°	4044	4020	3956	3815	3709	1856
35°	3281	3257	3099	2864	2794	2051
45°	2518	2465	2254	2066	1984	1939
55°	1749	1696	1538	1356	1285	1569
65°	1039	980	886	904	751	1024
75°	417	387	364	346	382	447
85°	59	65	70	76	82	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5076.5	5076.5	5076.5	5076.5	5076.5
2.5°	5041.3	5041.3	5041.3	5035.5	5035.5
5°	4988.5	4982.6	4982.6	4976.8	4976.8
7.5°	4947.4	4941.6	4935.7	4929.8	4918.1
10°	4888.7	4888.7	4882.9	4853.5	4847.7
12.5°	4794.8	4789.0	4765.5	4724.4	4712.7
15°	4665.7	4665.7	4618.8	4571.8	4554.2
17.5°	4524.9	4519.0	4460.3	4413.4	4389.9
20°	4372.3	4360.5	4301.9	4225.6	4184.5
22.5°	4202.1	4202.1	4131.7	4031.9	3990.8
25°	4043.6	4020.2	3955.6	3814.7	3709.1
27.5°	3861.7	3826.5	3756.1	3556.5	3433.3
30°	3662.2	3644.6	3544.8	3286.6	3192.6
32.5°	3474.4	3445.0	3339.4	3069.4	2993.1
35°	3280.7	3257.2	3098.7	2864.0	2793.6
37.5°	3087.0	3057.7	2858.1	2670.3	2582.3
40°	2893.3	2858.1	2641.0	2470.8	2376.9
42.5°	2711.4	2664.5	2453.2	2271.2	2165.6
45°	2517.7	2464.9	2253.6	2065.8	1983.7
47.5°	2324.1	2277.1	2083.4	1889.8	1795.9
50°	2118.7	2077.6	1901.5	1707.8	1608.1
52.5°	1948.5	1883.9	1713.7	1520.0	1437.9
55°	1748.9	1696.1	1537.6	1355.7	1285.3
57.5°	1567.0	1514.2	1367.4	1197.2	1138.6
60°	1396.8	1320.5	1197.2	1050.5	1003.6
62.5°	1209.0	1150.3	1044.7	921.4	980.1
65°	1038.8	980.1	886.2	903.8	751.2
67.5°	851.0	821.6	739.5	657.3	633.8
70°	692.5	657.3	628.0	539.9	516.5
72.5°	551.7	516.5	475.4	428.4	410.8
75°	416.7	387.3	363.9	346.3	381.5
77.5°	287.6	275.8	258.2	240.6	234.8
80°	187.8	181.9	176.1	170.2	164.3
82.5°	111.5	111.5	111.5	111.5	111.5
85°	58.7	64.6	70.4	76.3	82.2
87.5°	35.2	35.2	41.1	47.0	52.8
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)