

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: P589425

Luminaire Tested: **FMR-24-2-LD4-3LO-40-UNV-93-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589425  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-3LO-40-UNV-93-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

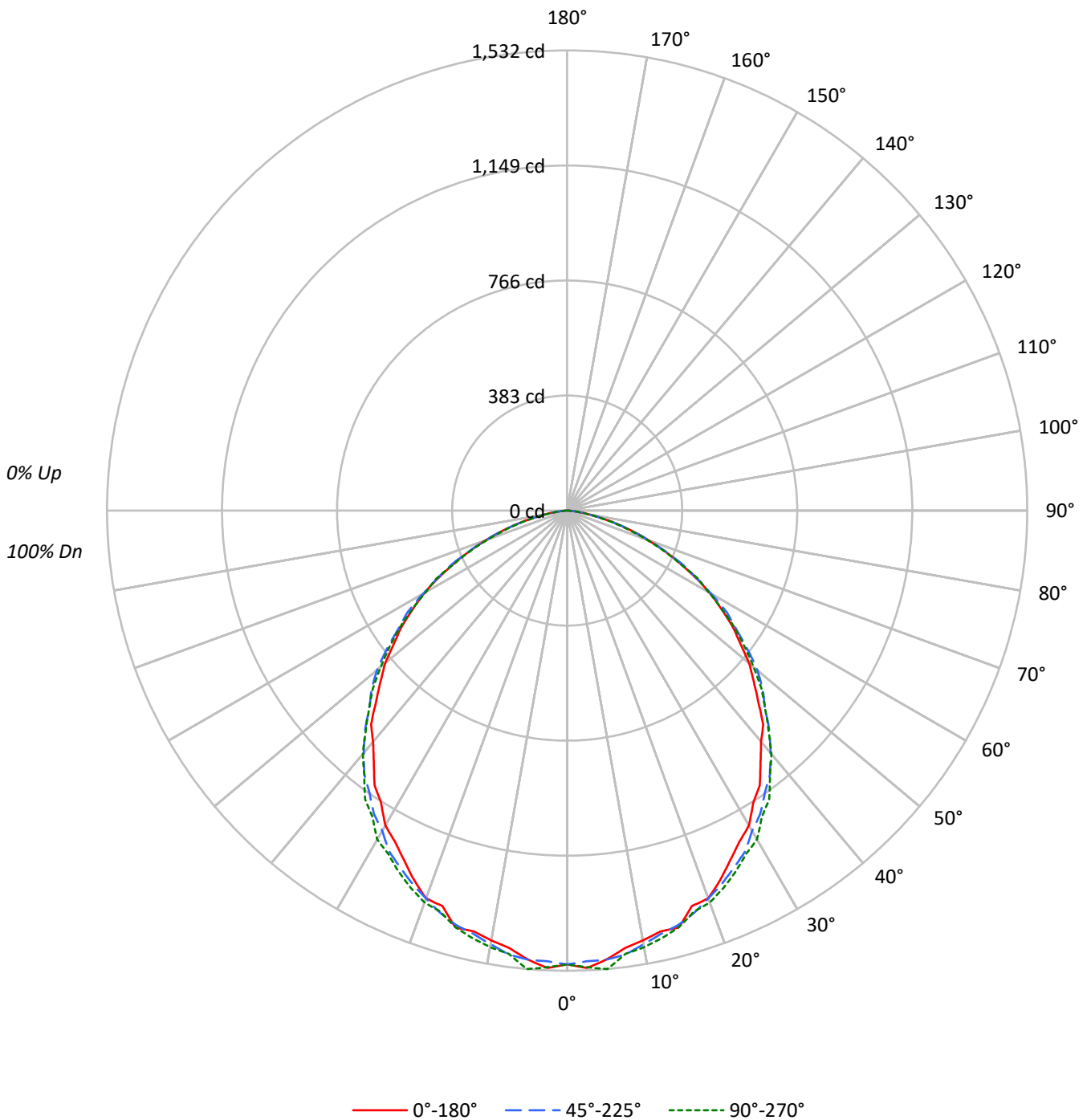
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3808.0 lumens  
Efficiency: N/A  
Efficacy: 108.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
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	
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4066	4066	4066
5°	4052	4054	4139
10°	3970	4005	4033
15°	4002	3980	4002
20°	3934	3934	3976
25°	3813	3896	3939
30°	3761	3827	3929
35°	3672	3768	3853
40°	3529	3699	3716
45°	3422	3544	3550
50°	3310	3460	3394
55°	3154	3215	3192
60°	2949	2979	2925
65°	2630	2697	2611
70°	2257	2264	2201
75°	1787	1783	1713
80°	1198	1164	1119
85°	651	645	602



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.1	3.7
10°-20°	402.8	10.6
20°-30°	603.5	15.8
30°-40°	715.2	18.8
40°-50°	716.6	18.8
50°-60°	608.3	16.0
60°-70°	410.1	10.8
70°-80°	180.2	4.7
80°-90°	29.3	0.8
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°	1148.4	30.2
0°-40°	1863.6	48.9
0°-60°	3188.5	83.7
0°-90°	3808.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3808.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1511	1511	1511	1511	1511	
5°	1500	1497	1501	1496	1532	141
15°	1436	1420	1429	1436	1437	400
25°	1284	1291	1312	1330	1327	594
35°	1118	1121	1147	1174	1173	694
45°	899	916	931	955	933	696
55°	672	668	685	681	680	598
65°	413	408	424	407	410	411
75°	172	168	172	159	165	184
85°	21	20	21	20	20	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1510.9	1510.9	1510.9	1510.9	1510.9
2.5°	1524.0	1512.5	1501.7	1514.2	1521.8
5°	1500.2	1496.7	1500.8	1496.3	1532.4
7.5°	1469.4	1482.8	1490.6	1485.8	1487.9
10°	1453.0	1448.3	1465.7	1477.8	1476.0
12.5°	1435.4	1442.4	1443.4	1456.5	1457.7
15°	1436.4	1419.8	1428.6	1436.0	1436.6
17.5°	1380.6	1398.6	1404.6	1421.6	1400.5
20°	1373.8	1360.7	1373.8	1391.1	1388.4
22.5°	1331.8	1317.2	1345.3	1360.7	1359.7
25°	1284.2	1291.3	1312.3	1329.5	1326.8
27.5°	1242.5	1250.7	1280.7	1304.3	1289.1
30°	1210.3	1206.2	1231.6	1252.6	1264.3
32.5°	1152.7	1167.6	1197.2	1218.1	1207.0
35°	1117.8	1121.1	1147.1	1173.6	1172.8
37.5°	1056.8	1072.2	1108.7	1116.1	1109.2
40°	1004.7	1020.1	1053.1	1061.1	1057.7
42.5°	966.2	969.0	997.3	1006.4	991.8
45°	899.3	916.1	931.3	955.3	932.7
47.5°	842.4	850.2	882.9	889.4	877.5
50°	790.7	793.4	826.4	818.4	810.6
52.5°	725.7	737.2	755.8	754.2	745.0
55°	672.3	667.8	685.3	680.6	680.4
57.5°	608.1	615.9	630.3	622.9	611.0
60°	548.0	548.2	553.5	545.1	543.5
62.5°	481.1	483.4	484.6	474.2	491.0
65°	413.0	407.5	423.5	407.3	410.1
67.5°	350.4	353.1	351.5	341.4	345.3
70°	286.8	290.3	287.7	276.2	279.7
72.5°	228.6	224.3	227.1	212.6	219.3
75°	171.9	168.4	171.5	159.4	164.8
77.5°	117.0	119.8	117.8	111.4	115.1
80°	77.3	75.1	75.1	71.4	72.2
82.5°	45.1	42.9	42.3	41.2	42.9
85°	21.1	20.5	20.9	20.3	19.5
87.5°	7.6	7.8	7.8	7.4	7.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)