

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P563315

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563315  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-3LO-40-UNV-80-85-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

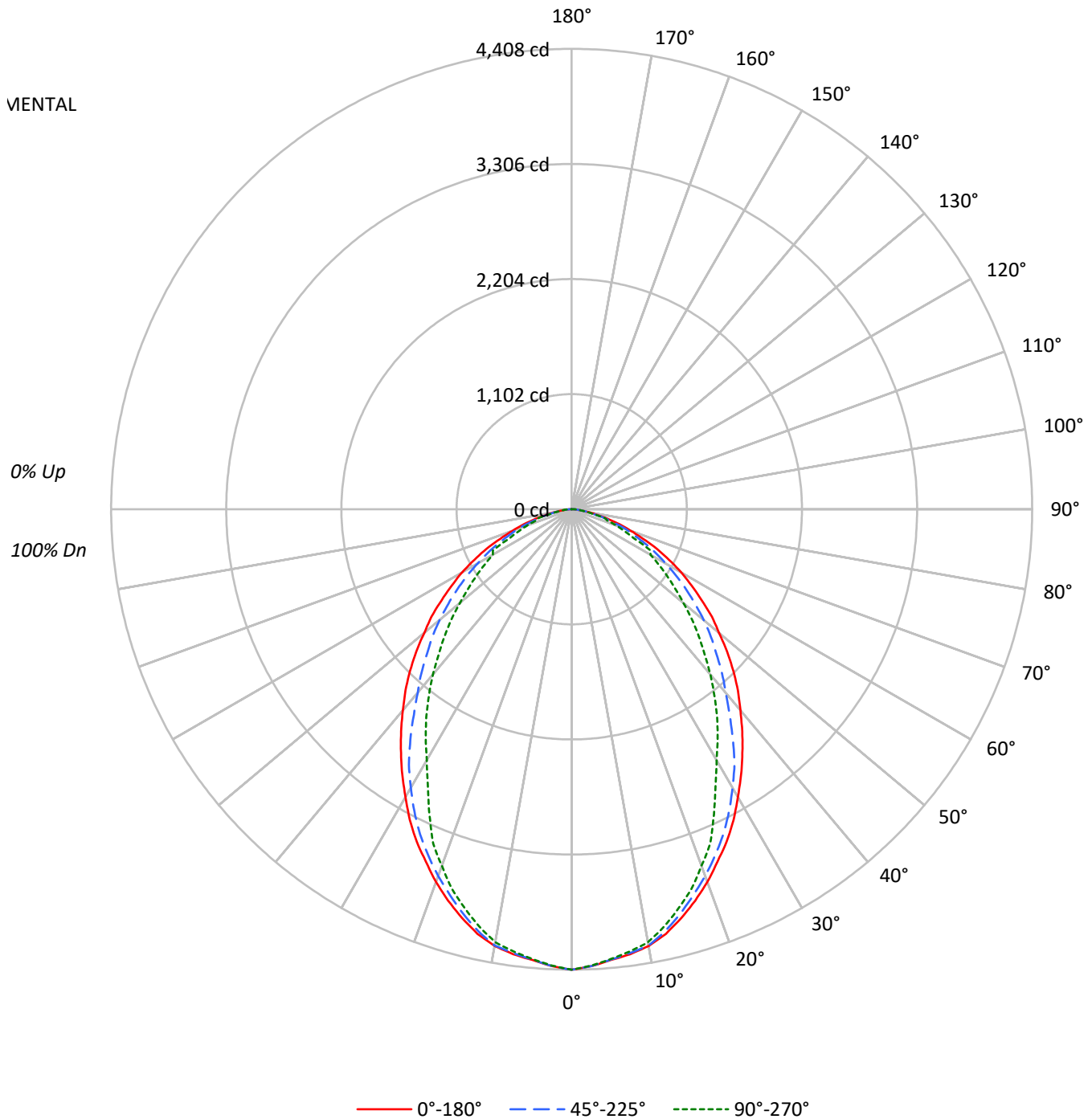
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8654.0 lumens  
Efficiency: N/A  
Efficacy: 123.3 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): 70.2  
Input Voltage (V):  
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: 24 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	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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

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

	0°	45°	90°
0°	5931	5931	5931
5°	5851	5844	5837
10°	5800	5793	5751
15°	5644	5587	5509
20°	5436	5349	5203
25°	5213	5099	4782
30°	4941	4782	4307
35°	4679	4420	3984
40°	4413	4028	3625
45°	4160	3724	3278
50°	3851	3456	2923
55°	3563	3132	2618
60°	3264	2798	2345
65°	2872	2450	2077
70°	2366	2145	1764
75°	1881	1643	1722
80°	1264	1185	1106
85°	787	945	1101

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4160 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	410.3	4.7
10°-20°	1126.2	13.0
20°-30°	1559.1	18.0
30°-40°	1662.5	19.2
40°-50°	1516.6	17.5
50°-60°	1188.2	13.7
60°-70°	774.4	8.9
70°-80°	343.1	4.0
80°-90°	73.7	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°	3095.6	35.8
0°-40°	4758.1	55.0
0°-60°	7462.9	86.2
0°-90°	8654.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8654.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4408	4408	4408	4408	4408	
5°	4332	4327	4327	4322	4322	411
15°	4052	4052	4011	3970	3955	1139
25°	3511	3491	3435	3312	3221	1612
35°	2849	2828	2691	2487	2426	1781
45°	2186	2140	1957	1794	1722	1684
55°	1519	1473	1335	1177	1116	1362
65°	902	851	770	785	652	889
75°	362	336	316	301	331	388
85°	51	56	61	66	71	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4408.2	4408.2	4408.2	4408.2	4408.2
2.5°	4377.7	4377.7	4377.7	4372.6	4372.6
5°	4331.8	4326.7	4326.7	4321.6	4321.6
7.5°	4296.1	4291.0	4285.9	4280.8	4270.6
10°	4245.2	4245.2	4240.1	4214.6	4209.5
12.5°	4163.6	4158.5	4138.1	4102.5	4092.3
15°	4051.5	4051.5	4010.7	3970.0	3954.7
17.5°	3929.2	3924.1	3873.1	3832.4	3812.0
20°	3796.7	3786.5	3735.5	3669.3	3633.6
22.5°	3648.9	3648.9	3587.7	3501.1	3465.4
25°	3511.3	3490.9	3434.9	3312.5	3220.8
27.5°	3353.3	3322.7	3261.6	3088.3	2981.3
30°	3180.0	3164.8	3078.1	2853.9	2772.3
32.5°	3017.0	2991.5	2899.8	2665.3	2599.1
35°	2848.8	2828.4	2690.8	2487.0	2425.8
37.5°	2680.6	2655.1	2481.9	2318.8	2242.3
40°	2512.4	2481.9	2293.3	2145.5	2064.0
42.5°	2354.5	2313.7	2130.2	1972.2	1880.5
45°	2186.3	2140.4	1956.9	1793.9	1722.5
47.5°	2018.1	1977.3	1809.2	1641.0	1559.4
50°	1839.7	1804.1	1651.2	1483.0	1396.4
52.5°	1691.9	1635.9	1488.1	1319.9	1248.6
55°	1518.7	1472.8	1335.2	1177.2	1116.1
57.5°	1360.7	1314.8	1187.4	1039.6	988.7
60°	1212.9	1146.6	1039.6	912.2	871.5
62.5°	1049.8	998.9	907.1	800.1	851.1
65°	902.0	851.1	769.5	784.8	652.3
67.5°	739.0	713.5	642.1	570.8	550.4
70°	601.4	570.8	545.3	468.9	448.5
72.5°	479.0	448.5	412.8	372.0	356.7
75°	361.8	336.4	316.0	300.7	331.3
77.5°	249.7	239.5	224.2	208.9	203.8
80°	163.1	158.0	152.9	147.8	142.7
82.5°	96.8	96.8	96.8	96.8	96.8
85°	51.0	56.1	61.2	66.3	71.3
87.5°	30.6	30.6	35.7	40.8	45.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)