

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: P562041

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562041  
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-LD4-1HI-40-UNV-80-88-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

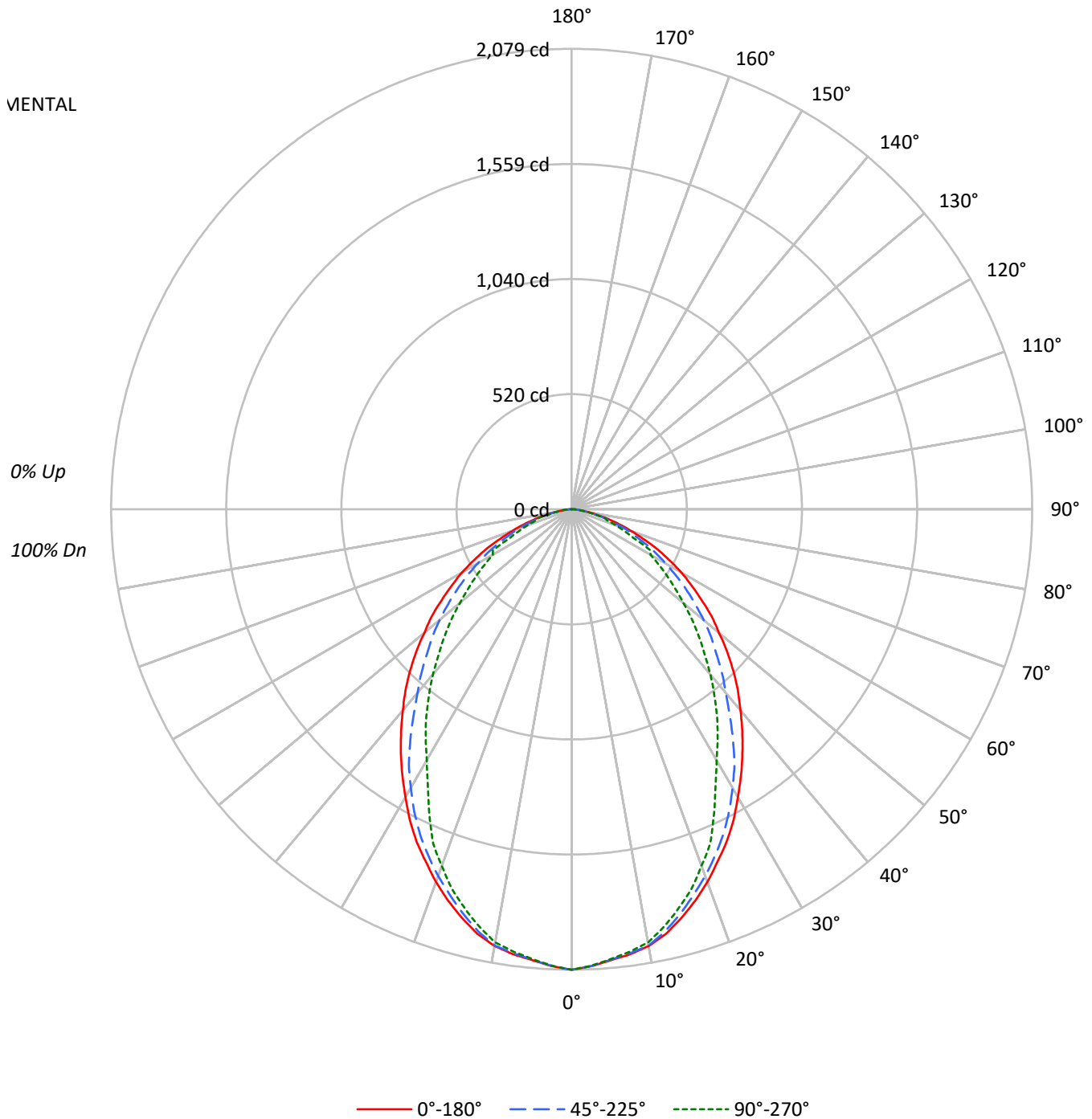
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4082.0 lumens  
Efficiency: N/A  
Efficacy: 94.5 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): 43.2  
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	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°	2798	2798	2798
5°	2760	2756	2753
10°	2736	2732	2713
15°	2662	2635	2598
20°	2564	2523	2454
25°	2459	2405	2255
30°	2330	2256	2032
35°	2207	2085	1879
40°	2082	1900	1710
45°	1962	1756	1546
50°	1816	1630	1379
55°	1680	1477	1235
60°	1540	1320	1106
65°	1355	1156	980
70°	1116	1012	832
75°	887	775	812
80°	596	559	521
85°	371	445	520

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1962 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	193.6	4.7
10°-20°	531.2	13.0
20°-30°	735.4	18.0
30°-40°	784.2	19.2
40°-50°	715.4	17.5
50°-60°	560.4	13.7
60°-70°	365.3	8.9
70°-80°	161.8	4.0
80°-90°	34.7	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°	1460.2	35.8
0°-40°	2244.3	55.0
0°-60°	3520.1	86.2
0°-90°	4082.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4082.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2079	2079	2079	2079	2079	
5°	2043	2041	2041	2038	2038	194
15°	1911	1911	1892	1873	1865	537
25°	1656	1647	1620	1562	1519	760
35°	1344	1334	1269	1173	1144	840
45°	1031	1010	923	846	812	794
55°	716	695	630	555	526	642
65°	426	401	363	370	308	419
75°	171	159	149	142	156	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2079.3	2079.3	2079.3	2079.3	2079.3
2.5°	2064.9	2064.9	2064.9	2062.5	2062.5
5°	2043.3	2040.9	2040.9	2038.5	2038.5
7.5°	2026.4	2024.0	2021.6	2019.2	2014.4
10°	2002.4	2002.4	2000.0	1988.0	1985.6
12.5°	1963.9	1961.5	1951.9	1935.1	1930.3
15°	1911.0	1911.0	1891.8	1872.6	1865.4
17.5°	1853.4	1851.0	1826.9	1807.7	1798.1
20°	1790.9	1786.0	1762.0	1730.8	1713.9
22.5°	1721.1	1721.1	1692.3	1651.4	1634.6
25°	1656.2	1646.6	1620.2	1562.5	1519.2
27.5°	1581.7	1567.3	1538.5	1456.7	1406.2
30°	1500.0	1492.8	1451.9	1346.1	1307.7
32.5°	1423.1	1411.1	1367.8	1257.2	1226.0
35°	1343.7	1334.1	1269.2	1173.1	1144.2
37.5°	1264.4	1252.4	1170.7	1093.7	1057.7
40°	1185.1	1170.7	1081.7	1012.0	973.6
42.5°	1110.6	1091.3	1004.8	930.3	887.0
45°	1031.2	1009.6	923.1	846.1	812.5
47.5°	951.9	932.7	853.4	774.0	735.6
50°	867.8	851.0	778.8	699.5	658.7
52.5°	798.1	771.6	701.9	622.6	588.9
55°	716.3	694.7	629.8	555.3	526.4
57.5°	641.8	620.2	560.1	490.4	466.3
60°	572.1	540.9	490.4	430.3	411.1
62.5°	495.2	471.2	427.9	377.4	401.4
65°	425.5	401.4	363.0	370.2	307.7
67.5°	348.6	336.5	302.9	269.2	259.6
70°	283.7	269.2	257.2	221.2	211.5
72.5°	226.0	211.5	194.7	175.5	168.3
75°	170.7	158.7	149.0	141.8	156.2
77.5°	117.8	113.0	105.8	98.6	96.2
80°	76.9	74.5	72.1	69.7	67.3
82.5°	45.7	45.7	45.7	45.7	45.7
85°	24.0	26.4	28.8	31.2	33.7
87.5°	14.4	14.4	16.8	19.2	21.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)