

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: P590106

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-80-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590106  
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  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1STD-50-UNV-80-94-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

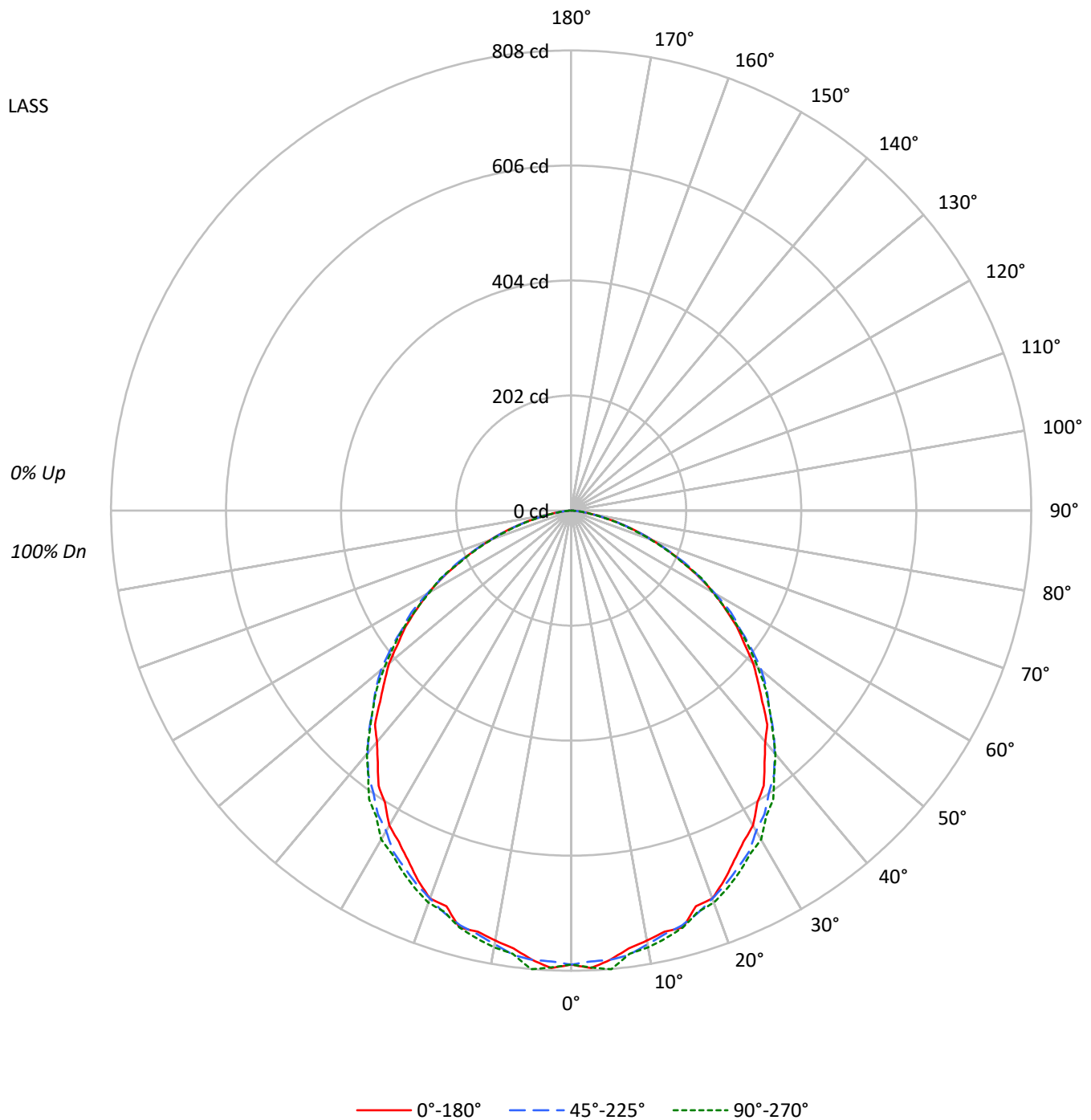
Lumens per Lamp: N/A  
Luminaire Lumens: 2009.0 lumens  
Efficiency: N/A  
Efficacy: 121.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	2145	2145	2145
5°	2138	2139	2184
10°	2095	2113	2128
15°	2111	2100	2111
20°	2076	2076	2098
25°	2012	2056	2078
30°	1984	2019	2073
35°	1937	1988	2033
40°	1862	1952	1960
45°	1806	1870	1873
50°	1746	1825	1790
55°	1664	1696	1684
60°	1556	1572	1543
65°	1387	1422	1377
70°	1190	1194	1161
75°	943	941	905
80°	632	614	590
85°	343	340	318

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1918 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.0	3.7
10°-20°	212.5	10.6
20°-30°	318.4	15.8
30°-40°	377.3	18.8
40°-50°	378.0	18.8
50°-60°	320.9	16.0
60°-70°	216.3	10.8
70°-80°	95.1	4.7
80°-90°	15.4	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°	605.9	30.2
0°-40°	983.2	48.9
0°-60°	1682.1	83.7
0°-90°	2009.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2009.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	797	797	797	797	797	
5°	792	790	792	789	808	75
15°	758	749	754	758	758	211
25°	678	681	692	701	700	313
35°	590	592	605	619	619	366
45°	474	483	491	504	492	367
55°	355	352	362	359	359	316
65°	218	215	223	215	216	217
75°	91	89	90	84	87	97
85°	11	11	11	11	10	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	797.1	797.1	797.1	797.1	797.1
2.5°	804.0	797.9	792.3	798.9	802.9
5°	791.5	789.6	791.8	789.4	808.4
7.5°	775.2	782.3	786.4	783.8	785.0
10°	766.6	764.1	773.2	779.6	778.7
12.5°	757.3	761.0	761.5	768.4	769.0
15°	757.8	749.1	753.7	757.6	757.9
17.5°	728.4	737.8	741.0	750.0	738.9
20°	724.8	717.9	724.8	733.9	732.5
22.5°	702.6	694.9	709.7	717.9	717.4
25°	677.5	681.2	692.3	701.4	700.0
27.5°	655.5	659.8	675.7	688.1	680.1
30°	638.5	636.4	649.7	660.9	667.0
32.5°	608.2	616.0	631.6	642.6	636.8
35°	589.7	591.5	605.2	619.2	618.8
37.5°	557.5	565.7	584.9	588.8	585.2
40°	530.0	538.2	555.6	559.8	558.0
42.5°	509.8	511.2	526.1	531.0	523.2
45°	474.5	483.3	491.3	504.0	492.1
47.5°	444.4	448.5	465.8	469.2	462.9
50°	417.1	418.6	436.0	431.8	427.6
52.5°	382.9	388.9	398.7	397.9	393.1
55°	354.7	352.3	361.6	359.1	359.0
57.5°	320.8	324.9	332.5	328.6	322.3
60°	289.1	289.2	292.0	287.6	286.7
62.5°	253.8	255.0	255.7	250.2	259.1
65°	217.9	215.0	223.4	214.9	216.3
67.5°	184.8	186.3	185.5	180.1	182.2
70°	151.3	153.1	151.8	145.7	147.6
72.5°	120.6	118.4	119.8	112.2	115.7
75°	90.7	88.8	90.5	84.1	87.0
77.5°	61.8	63.2	62.2	58.8	60.7
80°	40.8	39.6	39.6	37.7	38.1
82.5°	23.8	22.6	22.3	21.7	22.6
85°	11.1	10.8	11.0	10.7	10.3
87.5°	4.0	4.1	4.1	3.9	3.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)