

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: P590107

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-80-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590107  
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-80-96-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

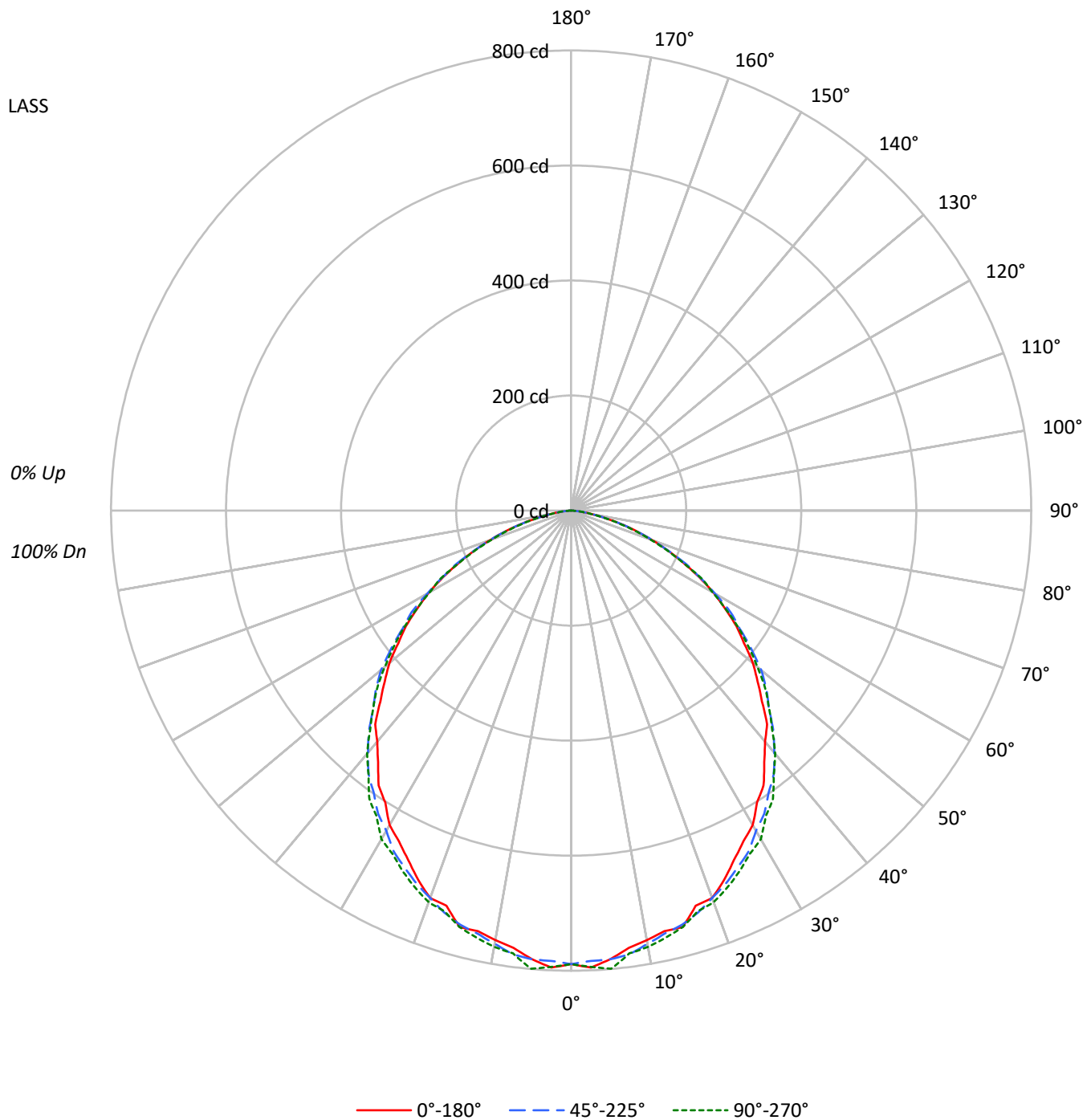
Lumens per Lamp: N/A  
Luminaire Lumens: 1987.0 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	2122	2122	2122
5°	2115	2115	2160
10°	2072	2090	2105
15°	2088	2077	2088
20°	2053	2053	2075
25°	1990	2033	2056
30°	1962	1997	2050
35°	1916	1966	2010
40°	1841	1930	1939
45°	1786	1850	1852
50°	1727	1805	1771
55°	1646	1678	1666
60°	1539	1554	1526
65°	1372	1407	1363
70°	1177	1181	1149
75°	933	931	894
80°	625	607	584
85°	340	337	315

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1897 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.2	3.7
10°-20°	210.2	10.6
20°-30°	314.9	15.8
30°-40°	373.2	18.8
40°-50°	373.9	18.8
50°-60°	317.4	16.0
60°-70°	214.0	10.8
70°-80°	94.0	4.7
80°-90°	15.3	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°	599.2	30.2
0°-40°	972.4	48.9
0°-60°	1663.7	83.7
0°-90°	1987.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1987.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	783	781	783	781	800	74
15°	750	741	745	749	750	209
25°	670	674	685	694	692	310
35°	583	585	598	612	612	362
45°	469	478	486	498	487	363
55°	351	348	358	355	355	312
65°	216	213	221	212	214	214
75°	90	88	90	83	86	96
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°	788.4	788.4	788.4	788.4	788.4
2.5°	795.2	789.2	783.6	790.1	794.1
5°	782.8	781.0	783.1	780.8	799.6
7.5°	766.7	773.7	777.8	775.3	776.4
10°	758.2	755.7	764.8	771.1	770.2
12.5°	749.0	752.7	753.2	760.0	760.6
15°	749.5	740.9	745.4	749.3	749.6
17.5°	720.4	729.8	732.9	741.8	730.8
20°	716.8	710.0	716.8	725.9	724.5
22.5°	694.9	687.3	702.0	710.0	709.5
25°	670.1	673.8	684.8	693.7	692.3
27.5°	648.3	652.6	668.3	680.6	672.7
30°	631.5	629.4	642.6	653.6	659.7
32.5°	601.5	609.2	624.7	635.6	629.8
35°	583.3	585.0	598.5	612.4	612.0
37.5°	551.4	559.5	578.5	582.4	578.8
40°	524.2	532.3	549.5	553.7	551.9
42.5°	504.2	505.6	520.4	525.2	517.5
45°	469.3	478.0	486.0	498.5	486.7
47.5°	439.5	443.6	460.7	464.1	457.9
50°	412.6	414.0	431.2	427.0	423.0
52.5°	378.7	384.7	394.3	393.5	388.7
55°	350.8	348.4	357.6	355.2	355.1
57.5°	317.3	321.4	328.9	325.0	318.8
60°	285.9	286.0	288.8	284.4	283.6
62.5°	251.0	252.2	252.9	247.5	256.2
65°	215.5	212.6	221.0	212.5	214.0
67.5°	182.8	184.2	183.4	178.1	180.2
70°	149.6	151.5	150.1	144.1	146.0
72.5°	119.3	117.1	118.5	111.0	114.4
75°	89.7	87.8	89.5	83.2	86.0
77.5°	61.1	62.5	61.5	58.1	60.1
80°	40.3	39.2	39.2	37.3	37.7
82.5°	23.5	22.4	22.1	21.5	22.4
85°	11.0	10.7	10.9	10.6	10.2
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)