

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: P590108

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-80-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590108  
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-80-97-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

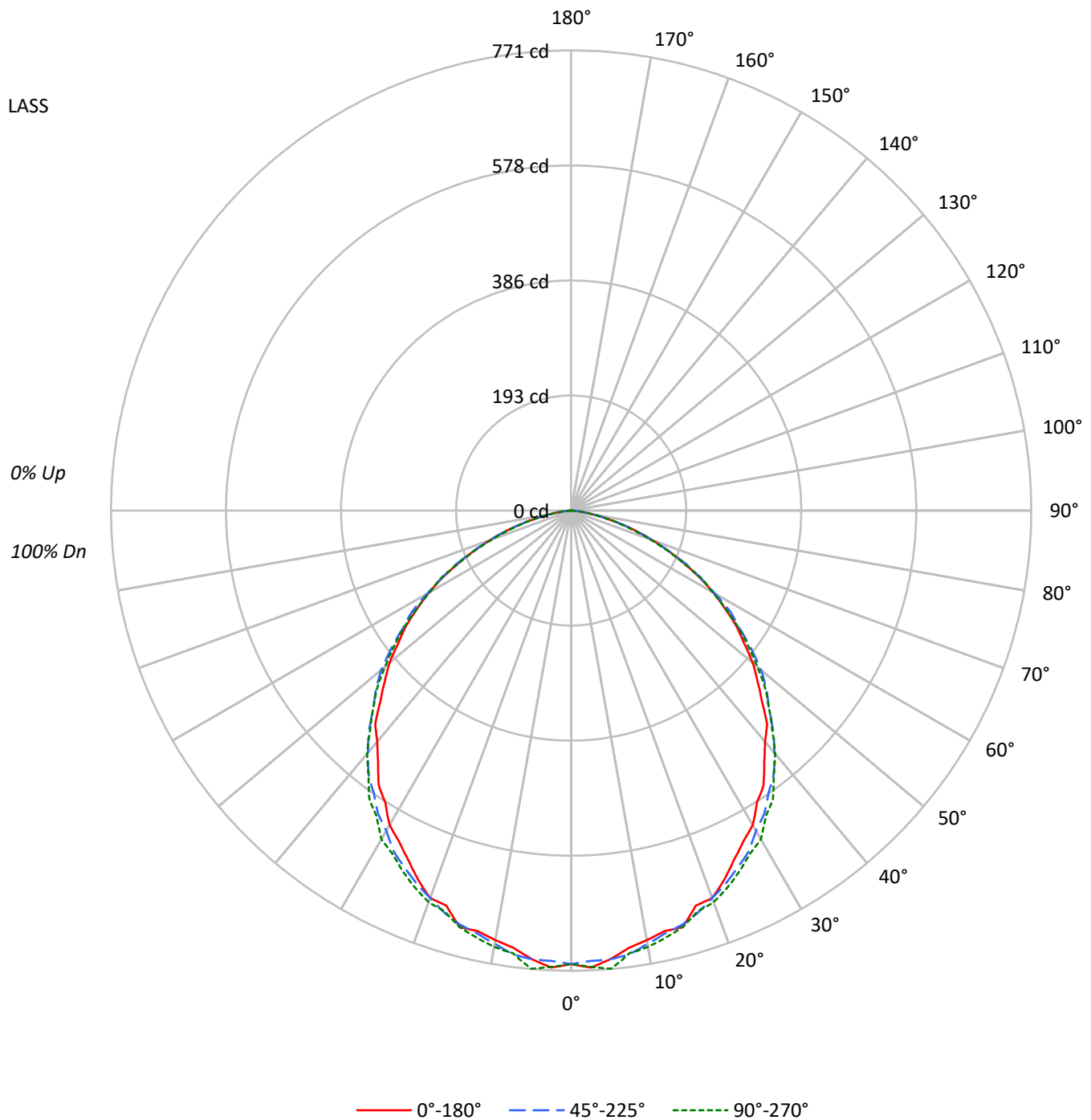
Lumens per Lamp: N/A  
Luminaire Lumens: 1915.0 lumens  
Efficiency: N/A  
Efficacy: 115.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	2045	2045	2045
5°	2038	2039	2082
10°	1997	2014	2028
15°	2012	2001	2013
20°	1979	1979	1999
25°	1917	1960	1981
30°	1891	1924	1976
35°	1847	1895	1938
40°	1775	1860	1868
45°	1721	1783	1785
50°	1665	1740	1706
55°	1586	1617	1605
60°	1483	1498	1471
65°	1323	1356	1313
70°	1135	1138	1107
75°	898	896	862
80°	601	586	563
85°	327	324	303

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1828 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.5	3.7
10°-20°	202.6	10.6
20°-30°	303.5	15.8
30°-40°	359.7	18.8
40°-50°	360.4	18.8
50°-60°	305.9	16.0
60°-70°	206.2	10.8
70°-80°	90.6	4.7
80°-90°	14.7	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°	577.5	30.2
0°-40°	937.2	48.9
0°-60°	1603.4	83.7
0°-90°	1915.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1915.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	760	760	760	760	760	
5°	754	753	755	752	771	71
15°	722	714	718	722	722	201
25°	646	649	660	669	667	299
35°	562	564	577	590	590	349
45°	452	461	468	480	469	350
55°	338	336	345	342	342	301
65°	208	205	213	205	206	207
75°	86	85	86	80	83	93
85°	11	10	10	10	10	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	759.8	759.8	759.8	759.8	759.8
2.5°	766.4	760.6	755.2	761.5	765.3
5°	754.4	752.7	754.7	752.5	770.6
7.5°	738.9	745.7	749.6	747.2	748.2
10°	730.7	728.3	737.1	743.1	742.3
12.5°	721.9	725.4	725.9	732.5	733.0
15°	722.3	714.0	718.4	722.2	722.4
17.5°	694.3	703.3	706.4	714.9	704.3
20°	690.9	684.3	690.9	699.6	698.2
22.5°	669.8	662.4	676.5	684.3	683.8
25°	645.8	649.4	660.0	668.6	667.2
27.5°	624.8	629.0	644.1	655.9	648.3
30°	608.6	606.6	619.3	629.9	635.8
32.5°	579.7	587.2	602.1	612.6	607.0
35°	562.1	563.8	576.9	590.2	589.8
37.5°	531.4	539.2	557.5	561.3	557.8
40°	505.2	513.0	529.6	533.6	531.9
42.5°	485.9	487.3	501.5	506.1	498.8
45°	452.3	460.7	468.4	480.4	469.0
47.5°	423.6	427.5	444.0	447.3	441.3
50°	397.6	399.0	415.6	411.6	407.6
52.5°	365.0	370.7	380.1	379.3	374.7
55°	338.1	335.8	344.6	342.3	342.2
57.5°	305.8	309.7	317.0	313.2	307.3
60°	275.6	275.7	278.3	274.1	273.3
62.5°	241.9	243.1	243.7	238.5	246.9
65°	207.7	204.9	213.0	204.8	206.2
67.5°	176.2	177.6	176.8	171.7	173.6
70°	144.2	146.0	144.7	138.9	140.7
72.5°	115.0	112.8	114.2	106.9	110.3
75°	86.4	84.7	86.2	80.2	82.9
77.5°	58.9	60.2	59.3	56.0	57.9
80°	38.8	37.8	37.8	35.9	36.3
82.5°	22.7	21.6	21.3	20.7	21.6
85°	10.6	10.3	10.5	10.2	9.8
87.5°	3.8	3.9	3.9	3.7	3.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)