

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: P590128

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-93-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590128  
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-93-87-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

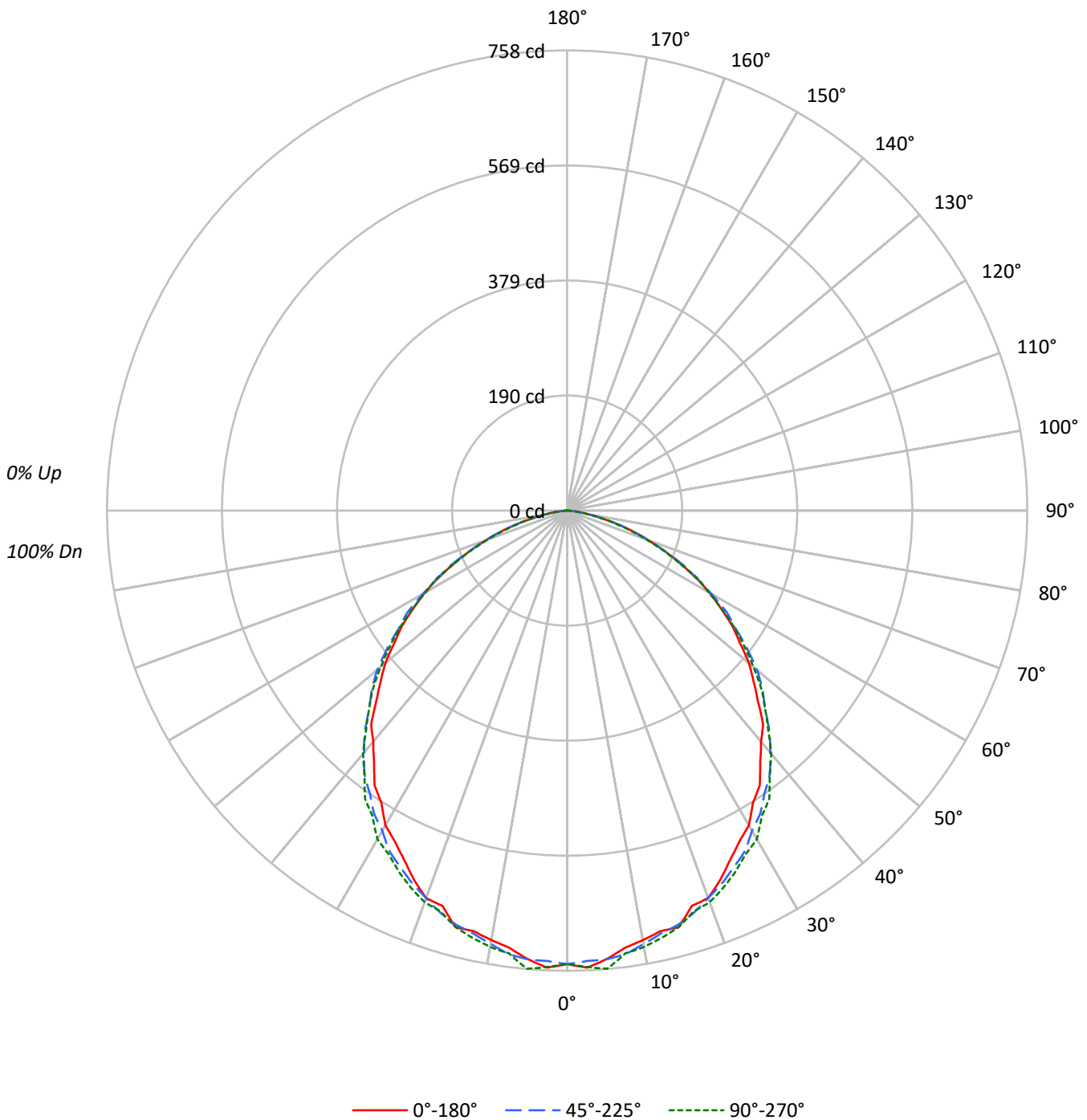
Lumens per Lamp: N/A  
Luminaire Lumens: 1883.0 lumens  
Efficiency: N/A  
Efficacy: 113.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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°	2010	2010	2010
5°	2004	2005	2047
10°	1963	1980	1994
15°	1979	1968	1979
20°	1945	1945	1966
25°	1885	1927	1948
30°	1860	1892	1943
35°	1816	1863	1905
40°	1745	1829	1837
45°	1692	1752	1755
50°	1637	1711	1678
55°	1559	1590	1579
60°	1459	1473	1447
65°	1300	1333	1291
70°	1116	1120	1088
75°	884	882	847
80°	592	575	553
85°	321	318	296

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1798 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.3	3.7
10°-20°	199.2	10.6
20°-30°	298.4	15.8
30°-40°	353.7	18.8
40°-50°	354.3	18.8
50°-60°	300.8	16.0
60°-70°	202.8	10.8
70°-80°	89.1	4.7
80°-90°	14.5	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°	567.9	30.2
0°-40°	921.5	48.9
0°-60°	1576.6	83.7
0°-90°	1883.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1883.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	747	747	747	747	747	
5°	742	740	742	740	758	70
15°	710	702	706	710	710	198
25°	635	638	649	657	656	294
35°	553	554	567	580	580	343
45°	445	453	460	472	461	344
55°	332	330	339	337	336	296
65°	204	202	209	201	203	203
75°	85	83	85	79	82	91
85°	10	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°	747.1	747.1	747.1	747.1	747.1
2.5°	753.6	747.9	742.6	748.8	752.5
5°	741.8	740.1	742.1	739.9	757.7
7.5°	726.6	733.2	737.1	734.7	735.7
10°	718.5	716.2	724.7	730.7	729.9
12.5°	709.8	713.3	713.7	720.2	720.8
15°	710.3	702.1	706.4	710.1	710.4
17.5°	682.7	691.6	694.6	702.9	692.5
20°	679.3	672.8	679.3	687.9	686.5
22.5°	658.6	651.3	665.2	672.8	672.4
25°	635.0	638.5	648.9	657.4	656.1
27.5°	614.4	618.4	633.3	645.0	637.4
30°	598.5	596.4	609.0	619.4	625.2
32.5°	570.0	577.3	592.0	602.3	596.8
35°	552.7	554.4	567.2	580.3	580.0
37.5°	522.6	530.2	548.2	551.9	548.5
40°	496.8	504.4	520.7	524.7	523.0
42.5°	477.8	479.1	493.1	497.7	490.4
45°	444.7	453.0	460.5	472.4	461.2
47.5°	416.5	420.4	436.6	439.8	433.9
50°	391.0	392.3	408.6	404.7	400.8
52.5°	358.9	364.5	373.7	372.9	368.4
55°	332.4	330.2	338.9	336.6	336.5
57.5°	300.7	304.5	311.7	308.0	302.1
60°	271.0	271.1	273.7	269.5	268.8
62.5°	237.9	239.0	239.6	234.5	242.8
65°	204.2	201.5	209.4	201.4	202.8
67.5°	173.3	174.6	173.8	168.8	170.7
70°	141.8	143.5	142.3	136.6	138.3
72.5°	113.1	110.9	112.3	105.1	108.4
75°	85.0	83.2	84.8	78.8	81.5
77.5°	57.9	59.2	58.3	55.1	56.9
80°	38.2	37.1	37.1	35.3	35.7
82.5°	22.3	21.2	20.9	20.4	21.2
85°	10.4	10.1	10.3	10.0	9.6
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)