

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: P590705

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-93-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590705  
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-LD4-3STD-50-UNV-93-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

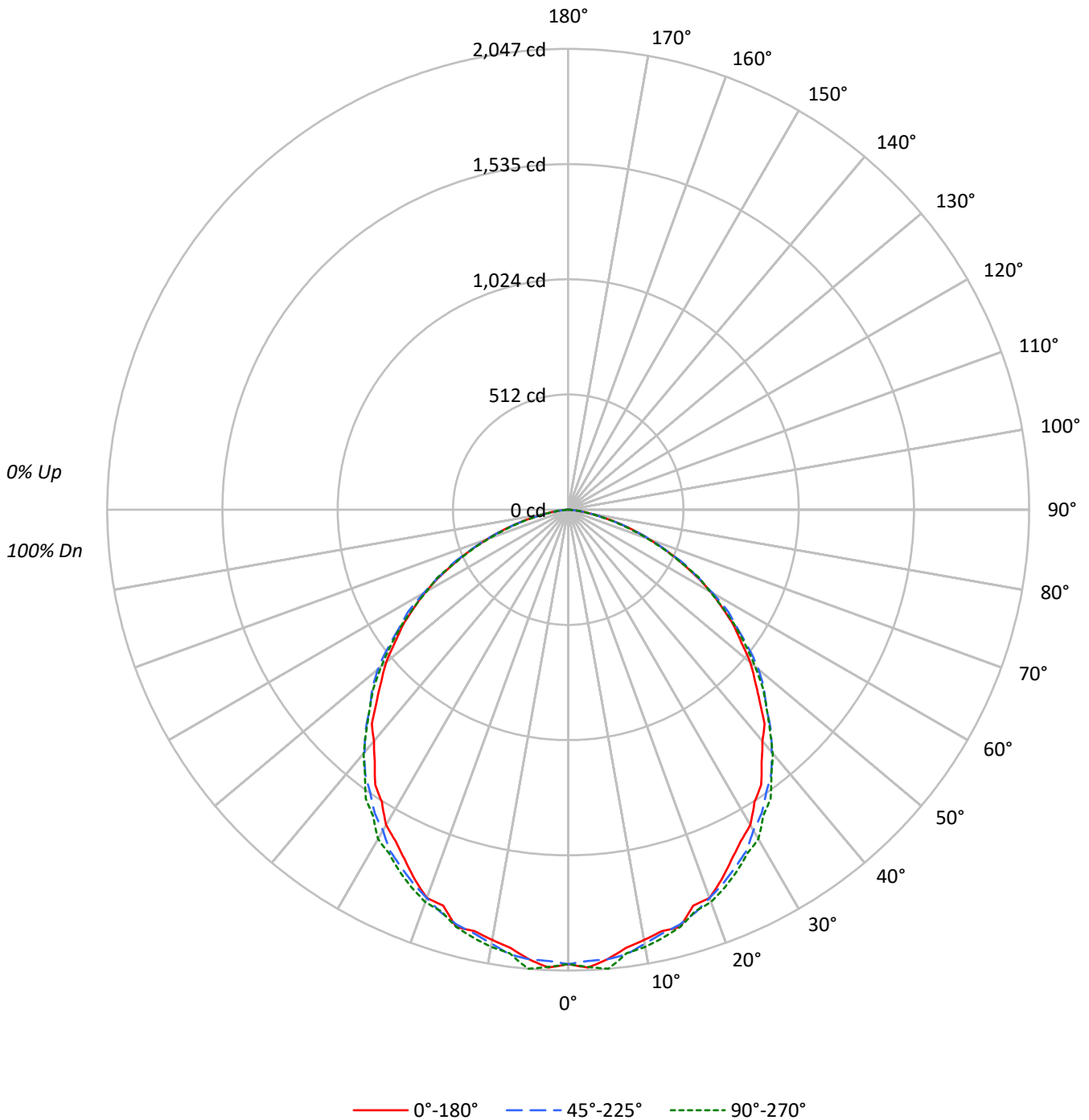
Lumens per Lamp: N/A  
Luminaire Lumens: 5087.0 lumens  
Efficiency: N/A  
Efficacy: 101.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5431	5431	5431
5°	5414	5415	5530
10°	5304	5350	5388
15°	5346	5317	5346
20°	5255	5255	5311
25°	5094	5205	5263
30°	5024	5112	5248
35°	4906	5034	5147
40°	4715	4942	4964
45°	4572	4735	4742
50°	4422	4621	4533
55°	4213	4295	4265
60°	3940	3979	3907
65°	3513	3603	3488
70°	3014	3024	2940
75°	2387	2382	2289
80°	1599	1554	1494
85°	868	861	806

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4857 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.9	3.7
10°-20°	538.1	10.6
20°-30°	806.2	15.8
30°-40°	955.5	18.8
40°-50°	957.2	18.8
50°-60°	812.5	16.0
60°-70°	547.8	10.8
70°-80°	240.7	4.7
80°-90°	39.1	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°	1534.1	30.2
0°-40°	2489.6	48.9
0°-60°	4259.3	83.7
0°-90°	5087.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5087.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2018	2018	2018	2018	2018	
5°	2004	1999	2005	1999	2047	189
15°	1919	1897	1908	1918	1919	535
25°	1716	1725	1753	1776	1772	793
35°	1493	1498	1532	1568	1567	927
45°	1201	1224	1244	1276	1246	929
55°	898	892	916	909	909	799
65°	552	544	566	544	548	549
75°	230	225	229	213	220	246
85°	28	27	28	27	26	41
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2018.4	2018.4	2018.4	2018.4	2018.4
2.5°	2035.9	2020.5	2006.1	2022.8	2033.0
5°	2004.1	1999.4	2004.8	1998.8	2047.1
7.5°	1962.9	1980.9	1991.3	1984.8	1987.6
10°	1941.0	1934.7	1957.9	1974.1	1971.7
12.5°	1917.5	1926.9	1928.2	1945.7	1947.2
15°	1918.8	1896.7	1908.4	1918.3	1919.1
17.5°	1844.3	1868.3	1876.4	1899.0	1870.9
20°	1835.2	1817.7	1835.2	1858.4	1854.7
22.5°	1779.2	1759.6	1797.1	1817.7	1816.4
25°	1715.6	1725.0	1753.1	1776.0	1772.4
27.5°	1659.8	1670.7	1710.9	1742.4	1722.1
30°	1616.8	1611.3	1645.2	1673.4	1689.0
32.5°	1539.9	1559.7	1599.3	1627.2	1612.4
35°	1493.3	1497.7	1532.4	1567.8	1566.8
37.5°	1411.7	1432.3	1481.0	1490.9	1481.8
40°	1342.1	1362.7	1406.8	1417.4	1413.0
42.5°	1290.8	1294.4	1332.2	1344.5	1324.9
45°	1201.4	1223.8	1244.1	1276.2	1246.0
47.5°	1125.3	1135.7	1179.5	1188.1	1172.2
50°	1056.2	1059.9	1103.9	1093.2	1082.8
52.5°	969.5	984.8	1009.6	1007.5	995.3
55°	898.0	892.1	915.5	909.3	909.0
57.5°	812.3	822.7	842.0	832.1	816.2
60°	732.0	732.3	739.3	728.1	726.0
62.5°	642.7	645.8	647.3	633.5	655.9
65°	551.7	544.4	565.8	544.1	547.8
67.5°	468.0	471.7	469.6	456.1	461.3
70°	383.1	387.8	384.4	369.0	373.7
72.5°	305.4	299.7	303.3	284.1	292.9
75°	229.6	224.9	229.1	212.9	220.2
77.5°	156.4	160.0	157.4	148.8	153.8
80°	103.2	100.3	100.3	95.4	96.4
82.5°	60.2	57.3	56.6	55.0	57.3
85°	28.1	27.4	27.9	27.1	26.1
87.5°	10.2	10.4	10.4	9.9	9.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)