

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: P590202

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

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590202  
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-LD4-2HI-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**

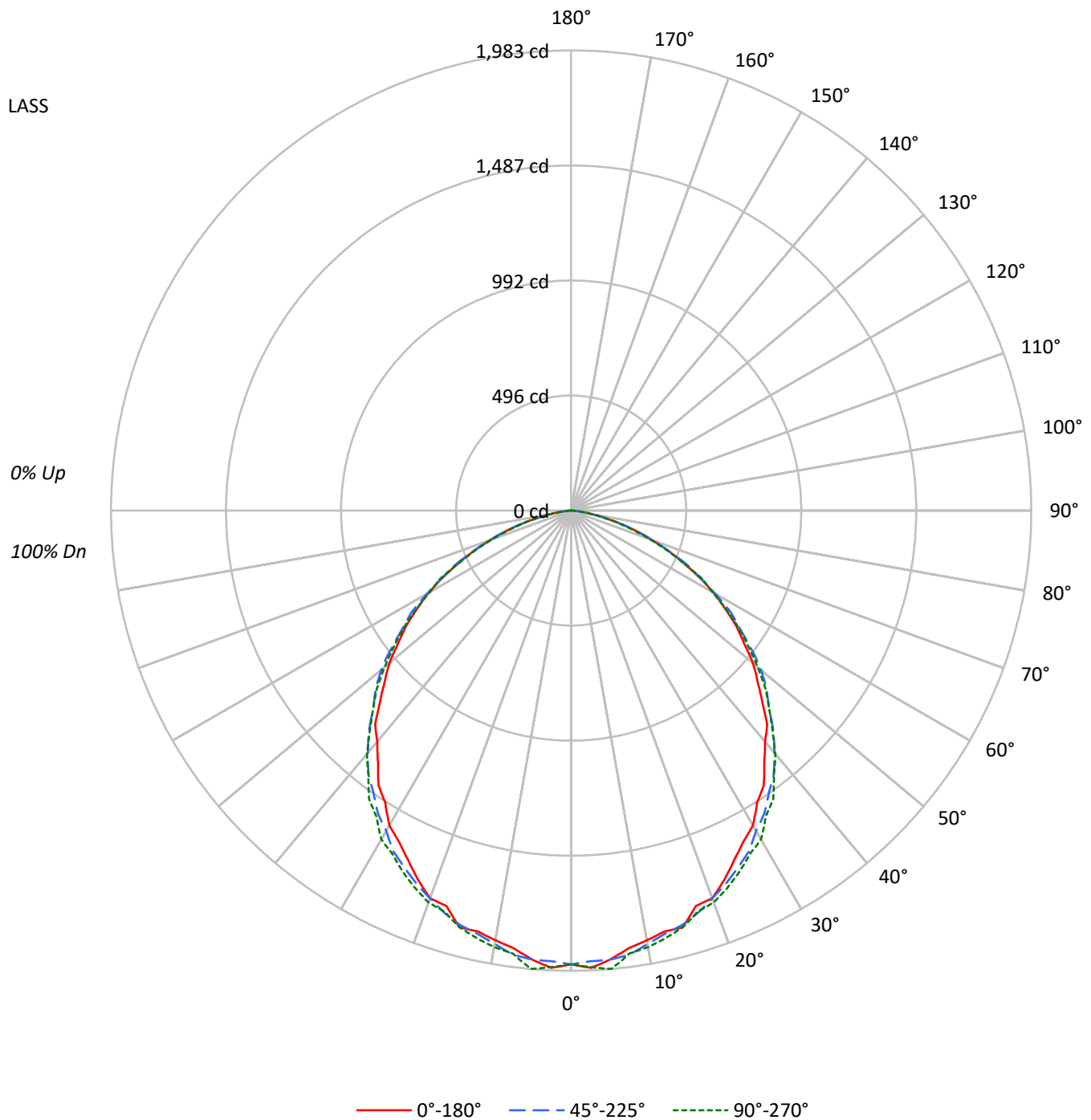
Lumens per Lamp: N/A  
Luminaire Lumens: 4928.0 lumens  
Efficiency: N/A  
Efficacy: 114.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
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°	5262	5262	5262
5°	5244	5246	5357
10°	5138	5183	5219
15°	5179	5151	5179
20°	5091	5091	5145
25°	4934	5043	5098
30°	4867	4952	5084
35°	4752	4877	4986
40°	4567	4787	4808
45°	4429	4587	4593
50°	4284	4477	4392
55°	4082	4161	4131
60°	3817	3855	3786
65°	3403	3490	3379
70°	2920	2930	2848
75°	2312	2307	2218
80°	1550	1506	1447
85°	843	834	778

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4705 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.9	3.7
10°-20°	521.3	10.6
20°-30°	781.0	15.8
30°-40°	925.6	18.8
40°-50°	927.3	18.8
50°-60°	787.1	16.0
60°-70°	530.7	10.8
70°-80°	233.2	4.7
80°-90°	37.9	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°	1486.2	30.2
0°-40°	2411.8	48.9
0°-60°	4126.2	83.7
0°-90°	4928.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4928.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1955	1955	1955	1955	1955	
5°	1941	1937	1942	1936	1983	183
15°	1859	1837	1849	1858	1859	518
25°	1662	1671	1698	1720	1717	768
35°	1447	1451	1484	1519	1518	898
45°	1164	1186	1205	1236	1207	900
55°	870	864	887	881	881	774
65°	534	527	548	527	531	532
75°	222	218	222	206	213	238
85°	27	26	27	26	25	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1955.3	1955.3	1955.3	1955.3	1955.3
2.5°	1972.2	1957.3	1943.4	1959.6	1969.4
5°	1941.4	1936.9	1942.2	1936.4	1983.1
7.5°	1901.5	1919.0	1929.1	1922.7	1925.5
10°	1880.3	1874.3	1896.7	1912.4	1910.1
12.5°	1857.6	1866.7	1868.0	1884.9	1886.4
15°	1858.9	1837.4	1848.8	1858.4	1859.1
17.5°	1786.7	1809.9	1817.7	1839.7	1812.4
20°	1777.8	1760.9	1777.8	1800.3	1796.8
22.5°	1723.5	1704.6	1741.0	1760.9	1759.6
25°	1661.9	1671.0	1698.3	1720.5	1717.0
27.5°	1607.9	1618.5	1657.4	1688.0	1668.3
30°	1566.3	1561.0	1593.8	1621.0	1636.2
32.5°	1491.8	1511.0	1549.3	1576.4	1562.0
35°	1446.6	1450.9	1484.5	1518.8	1517.8
37.5°	1367.6	1387.5	1434.7	1444.3	1435.5
40°	1300.2	1320.1	1362.8	1373.1	1368.8
42.5°	1250.4	1254.0	1290.6	1302.4	1283.5
45°	1163.8	1185.6	1205.2	1236.3	1207.0
47.5°	1090.1	1100.2	1142.6	1151.0	1135.6
50°	1023.2	1026.8	1069.4	1059.1	1049.0
52.5°	939.2	954.0	978.0	976.0	964.1
55°	870.0	864.2	886.9	880.8	880.6
57.5°	786.9	797.0	815.7	806.1	790.7
60°	709.2	709.4	716.2	705.4	703.4
62.5°	622.6	625.6	627.1	613.7	635.4
65°	534.5	527.4	548.1	527.1	530.7
67.5°	453.4	457.0	454.9	441.8	446.9
70°	371.1	375.7	372.4	357.5	362.0
72.5°	295.9	290.3	293.9	275.2	283.8
75°	222.4	217.9	221.9	206.3	213.3
77.5°	151.5	155.0	152.5	144.2	149.0
80°	100.0	97.2	97.2	92.4	93.4
82.5°	58.3	55.5	54.8	53.3	55.5
85°	27.3	26.5	27.0	26.3	25.2
87.5°	9.8	10.1	10.1	9.6	9.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)