

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: P590631

Luminaire Tested: FSR-24-2-LD4-3STD-35-UNV-82-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590631  
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-35-UNV-82-86-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

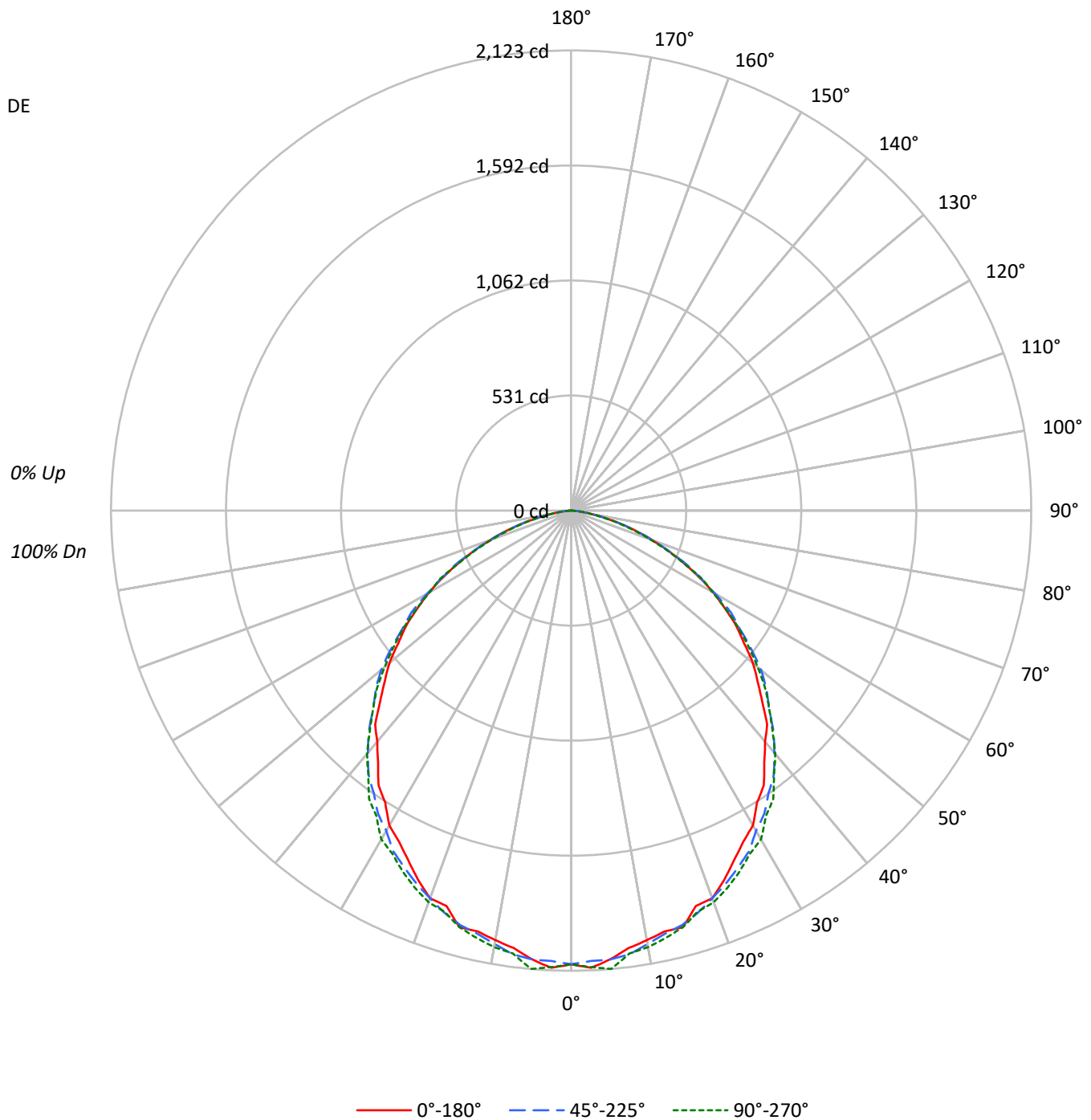
Lumens per Lamp: N/A  
Luminaire Lumens: 5275.0 lumens  
Efficiency: N/A  
Efficacy: 105.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5632	5632	5632
5°	5613	5616	5734
10°	5500	5548	5587
15°	5543	5513	5544
20°	5450	5450	5508
25°	5282	5398	5457
30°	5210	5301	5442
35°	5087	5220	5337
40°	4889	5124	5147
45°	4741	4910	4917
50°	4585	4792	4701
55°	4369	4454	4422
60°	4085	4126	4052
65°	3643	3736	3617
70°	3125	3136	3049
75°	2476	2469	2375
80°	1658	1612	1550
85°	902	892	834

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5036 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	196.9	3.7
10°-20°	558.0	10.6
20°-30°	836.0	15.8
30°-40°	990.8	18.8
40°-50°	992.6	18.8
50°-60°	842.6	16.0
60°-70°	568.1	10.8
70°-80°	249.6	4.7
80°-90°	40.6	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°	1590.8	30.2
0°-40°	2581.6	48.9
0°-60°	4416.8	83.7
0°-90°	5275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5275.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2093	2093	2093	2093	2093	
5°	2078	2073	2079	2073	2123	196
15°	1990	1967	1979	1989	1990	554
25°	1779	1789	1818	1842	1838	822
35°	1548	1553	1589	1626	1625	961
45°	1246	1269	1290	1323	1292	964
55°	931	925	949	943	943	828
65°	572	564	587	564	568	569
75°	238	233	238	221	228	255
85°	29	28	29	28	27	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2093.0	2093.0	2093.0	2093.0	2093.0
2.5°	2111.1	2095.1	2080.3	2097.6	2108.1
5°	2078.1	2073.3	2078.9	2072.7	2122.7
7.5°	2035.4	2054.1	2064.9	2058.1	2061.1
10°	2012.7	2006.2	2030.3	2047.0	2044.6
12.5°	1988.4	1998.1	1999.5	2017.6	2019.2
15°	1989.8	1966.8	1978.9	1989.2	1990.0
17.5°	1912.5	1937.3	1945.7	1969.2	1940.0
20°	1903.0	1884.9	1903.0	1927.1	1923.3
22.5°	1844.9	1824.6	1863.6	1884.9	1883.6
25°	1779.0	1788.7	1817.9	1841.7	1837.9
27.5°	1721.1	1732.5	1774.1	1806.8	1785.7
30°	1676.6	1670.9	1706.0	1735.2	1751.4
32.5°	1596.8	1617.4	1658.4	1687.4	1672.0
35°	1548.5	1553.1	1589.0	1625.7	1624.7
37.5°	1463.9	1485.2	1535.8	1546.0	1536.6
40°	1391.7	1413.1	1458.7	1469.8	1465.2
42.5°	1338.5	1342.3	1381.5	1394.2	1373.9
45°	1245.8	1269.0	1290.1	1323.4	1292.0
47.5°	1166.9	1177.7	1223.1	1232.0	1215.5
50°	1095.3	1099.1	1144.7	1133.6	1122.8
52.5°	1005.3	1021.2	1046.9	1044.7	1032.0
55°	931.2	925.0	949.3	942.9	942.6
57.5°	842.3	853.1	873.1	862.9	846.4
60°	759.1	759.4	766.7	755.0	752.9
62.5°	666.4	669.6	671.3	656.9	680.2
65°	572.1	564.5	586.7	564.3	568.0
67.5°	485.3	489.1	487.0	472.9	478.3
70°	397.2	402.1	398.6	382.7	387.5
72.5°	316.7	310.8	314.6	294.6	303.7
75°	238.1	233.2	237.5	220.8	228.4
77.5°	162.1	165.9	163.2	154.3	159.4
80°	107.0	104.0	104.0	98.9	100.0
82.5°	62.4	59.5	58.6	57.0	59.5
85°	29.2	28.4	28.9	28.1	27.0
87.5°	10.5	10.8	10.8	10.3	9.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)