

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: P590632

Luminaire Tested: FSR-24-2-LD4-3STD-35-UNV-82-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590632  
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-82-87-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

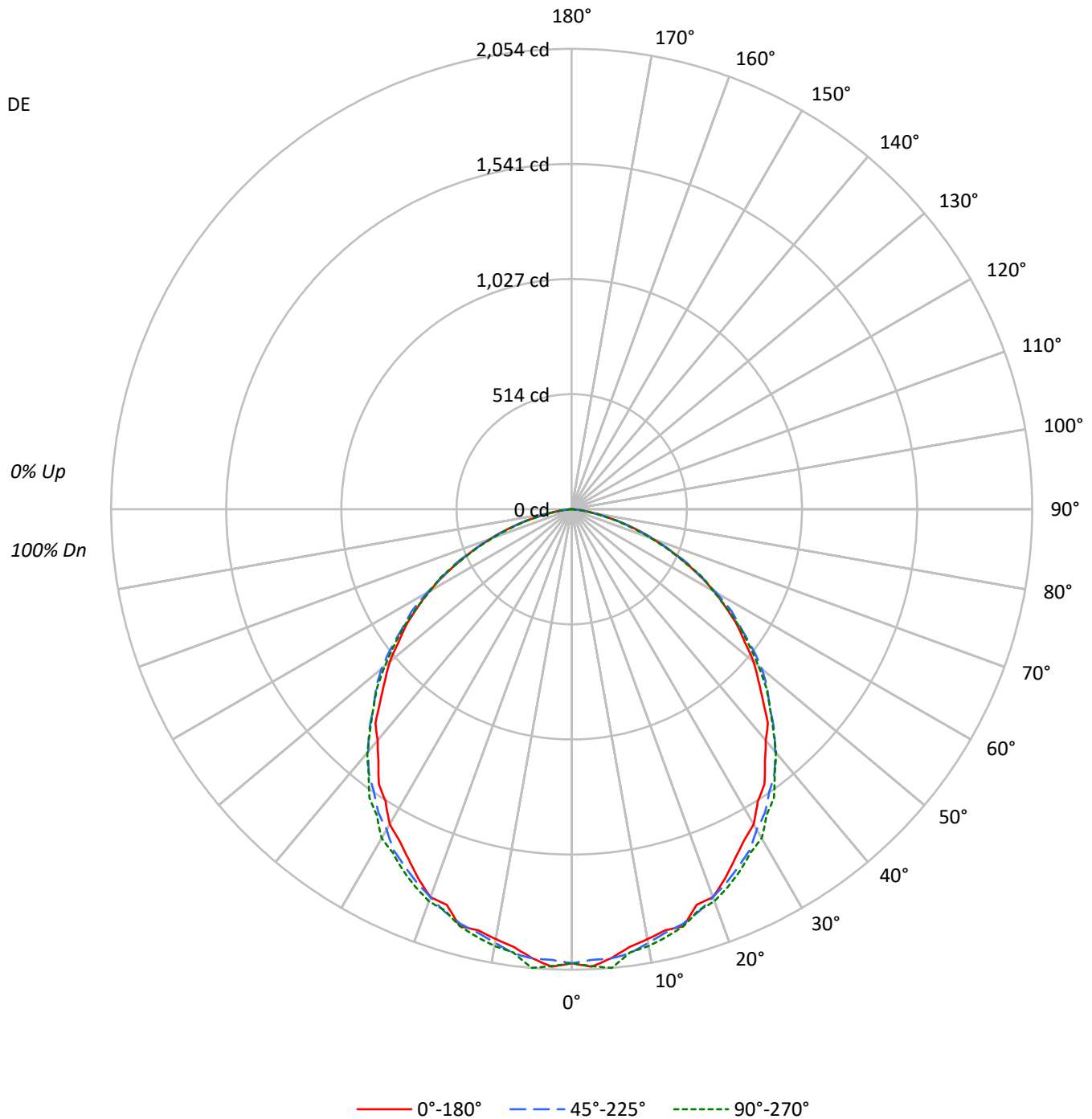
Lumens per Lamp: N/A  
Luminaire Lumens: 5104.0 lumens  
Efficiency: N/A  
Efficacy: 102.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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					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°	5450	5450	5450
5°	5432	5434	5548
10°	5322	5368	5406
15°	5364	5334	5364
20°	5273	5273	5329
25°	5111	5223	5280
30°	5041	5129	5266
35°	4922	5051	5164
40°	4730	4958	4980
45°	4587	4751	4757
50°	4437	4637	4548
55°	4227	4310	4279
60°	3953	3992	3921
65°	3524	3615	3500
70°	3024	3035	2950
75°	2396	2389	2297
80°	1604	1561	1499
85°	871	865	806

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4873 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.5	3.7
10°-20°	539.9	10.6
20°-30°	808.9	15.8
30°-40°	958.7	18.8
40°-50°	960.4	18.8
50°-60°	815.2	16.0
60°-70°	549.6	10.8
70°-80°	241.5	4.7
80°-90°	39.2	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°	1539.2	30.2
0°-40°	2497.9	48.9
0°-60°	4273.6	83.7
0°-90°	5104.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5104.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2025	2025	2025	2025	2025	
5°	2011	2006	2012	2006	2054	190
15°	1925	1903	1915	1925	1926	536
25°	1721	1731	1759	1782	1778	796
35°	1498	1503	1538	1573	1572	930
45°	1205	1228	1248	1280	1250	932
55°	901	895	919	912	912	802
65°	554	546	568	546	550	551
75°	230	226	230	214	221	247
85°	28	28	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°	2025.1	2025.1	2025.1	2025.1	2025.1
2.5°	2042.7	2027.2	2012.8	2029.6	2039.8
5°	2010.8	2006.1	2011.5	2005.5	2053.9
7.5°	1969.4	1987.5	1997.9	1991.4	1994.3
10°	1947.5	1941.2	1964.5	1980.7	1978.3
12.5°	1923.9	1933.4	1934.7	1952.2	1953.8
15°	1925.3	1903.0	1914.8	1924.7	1925.5
17.5°	1850.5	1874.5	1882.6	1905.4	1877.1
20°	1841.3	1823.8	1841.3	1864.6	1860.9
22.5°	1785.1	1765.5	1803.1	1823.8	1822.5
25°	1721.3	1730.7	1759.0	1782.0	1778.3
27.5°	1665.3	1676.3	1716.6	1748.2	1727.8
30°	1622.2	1616.7	1650.7	1678.9	1694.6
32.5°	1545.1	1564.9	1604.7	1632.7	1617.8
35°	1498.3	1502.7	1537.5	1573.0	1572.0
37.5°	1416.4	1437.1	1486.0	1495.9	1486.8
40°	1346.6	1367.3	1411.5	1422.2	1417.7
42.5°	1295.1	1298.8	1336.7	1349.0	1329.3
45°	1205.4	1227.9	1248.3	1280.5	1250.1
47.5°	1129.1	1139.5	1183.4	1192.1	1176.1
50°	1059.8	1063.4	1107.6	1096.9	1086.4
52.5°	972.7	988.1	1013.0	1010.9	998.6
55°	901.0	895.0	918.6	912.3	912.0
57.5°	815.0	825.5	844.8	834.9	818.9
60°	734.5	734.7	741.8	730.6	728.5
62.5°	644.8	647.9	649.5	635.7	658.1
65°	553.5	546.2	567.7	546.0	549.6
67.5°	469.6	473.3	471.2	457.6	462.8
70°	384.4	389.1	385.7	370.3	375.0
72.5°	306.5	300.7	304.4	285.0	293.9
75°	230.4	225.7	229.8	213.6	220.9
77.5°	156.9	160.5	157.9	149.3	154.3
80°	103.5	100.7	100.7	95.7	96.7
82.5°	60.4	57.5	56.7	55.2	57.5
85°	28.2	27.5	28.0	27.2	26.1
87.5°	10.2	10.5	10.5	9.9	9.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)