

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: P590135

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-80-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590135  
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-35-UNV-80-86-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

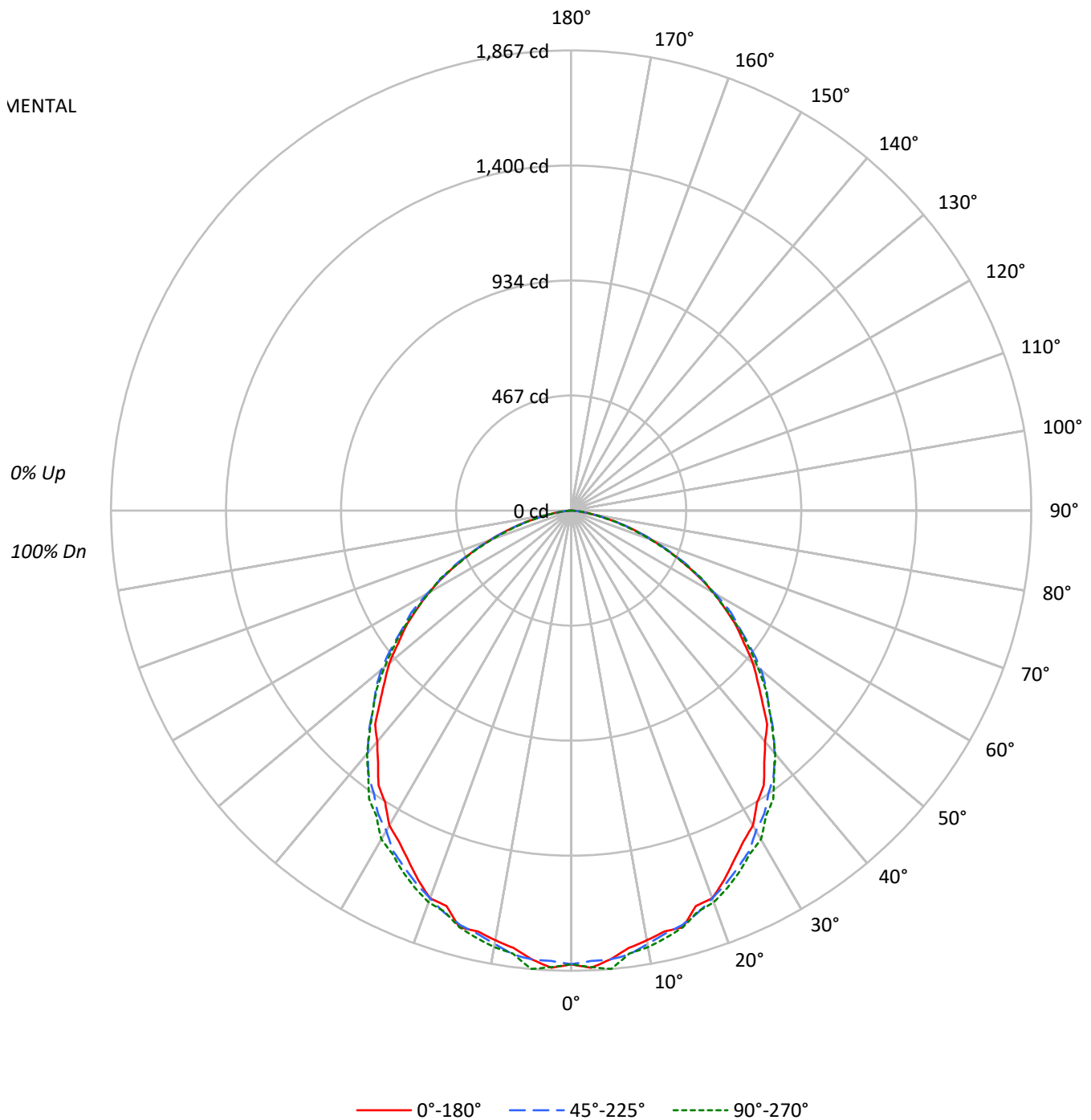
Lumens per Lamp: N/A  
Luminaire Lumens: 4639.0 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	4953	4953	4953
5°	4937	4939	5043
10°	4837	4879	4913
15°	4875	4848	4876
20°	4793	4793	4844
25°	4645	4747	4799
30°	4581	4662	4786
35°	4474	4591	4694
40°	4299	4507	4527
45°	4169	4318	4324
50°	4032	4214	4134
55°	3842	3917	3889
60°	3593	3629	3563
65°	3203	3285	3181
70°	2749	2758	2681
75°	2177	2172	2088
80°	1458	1418	1362
85°	794	784	735

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4429 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	173.1	3.7
10°-20°	490.7	10.6
20°-30°	735.2	15.8
30°-40°	871.3	18.8
40°-50°	872.9	18.8
50°-60°	741.0	16.0
60°-70°	499.6	10.8
70°-80°	219.5	4.7
80°-90°	35.7	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°	1399.0	30.2
0°-40°	2270.3	48.9
0°-60°	3884.3	83.7
0°-90°	4639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4639.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1841	1841	1841	1841	1841	
5°	1828	1823	1828	1823	1867	172
15°	1750	1730	1740	1749	1750	488
25°	1564	1573	1599	1620	1616	723
35°	1362	1366	1397	1430	1429	846
45°	1096	1116	1135	1164	1136	848
55°	819	814	835	829	829	729
65°	503	496	516	496	500	500
75°	209	205	209	194	201	224
85°	26	25	25	25	24	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1840.6	1840.6	1840.6	1840.6	1840.6
2.5°	1856.6	1842.5	1829.5	1844.7	1853.9
5°	1827.6	1823.3	1828.3	1822.8	1866.8
7.5°	1790.0	1806.4	1815.9	1810.0	1812.6
10°	1770.1	1764.4	1785.5	1800.2	1798.1
12.5°	1748.7	1757.2	1758.4	1774.3	1775.8
15°	1749.9	1729.7	1740.3	1749.4	1750.1
17.5°	1681.9	1703.7	1711.1	1731.8	1706.1
20°	1673.6	1657.6	1673.6	1694.7	1691.4
22.5°	1622.5	1604.6	1638.9	1657.6	1656.5
25°	1564.5	1573.0	1598.7	1619.6	1616.3
27.5°	1513.6	1523.6	1560.2	1589.0	1570.4
30°	1474.4	1469.4	1500.3	1526.0	1540.2
32.5°	1404.3	1422.4	1458.5	1483.9	1470.4
35°	1361.8	1365.8	1397.4	1429.7	1428.8
37.5°	1287.4	1306.2	1350.6	1359.6	1351.3
40°	1223.9	1242.7	1282.9	1292.6	1288.6
42.5°	1177.1	1180.4	1214.9	1226.1	1208.2
45°	1095.6	1116.0	1134.6	1163.8	1136.2
47.5°	1026.2	1035.7	1075.6	1083.5	1069.0
50°	963.2	966.5	1006.7	997.0	987.5
52.5°	884.1	898.1	920.7	918.8	907.6
55°	819.0	813.5	834.9	829.2	828.9
57.5°	740.8	750.3	767.9	758.8	744.3
60°	667.6	667.8	674.2	664.0	662.1
62.5°	586.1	588.9	590.3	577.7	598.2
65°	503.1	496.5	515.9	496.2	499.6
67.5°	426.8	430.2	428.3	415.9	420.6
70°	349.4	353.6	350.5	336.5	340.8
72.5°	278.5	273.3	276.6	259.0	267.1
75°	209.4	205.1	208.9	194.2	200.8
77.5°	142.6	145.9	143.5	135.7	140.2
80°	94.1	91.5	91.5	87.0	87.9
82.5°	54.9	52.3	51.6	50.1	52.3
85°	25.7	25.0	25.4	24.7	23.8
87.5°	9.3	9.5	9.5	9.0	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)