

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: P590616

Luminaire Tested: FSR-24-2-LD4-3STD-35-UNV-80-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590616  
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-80-87-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

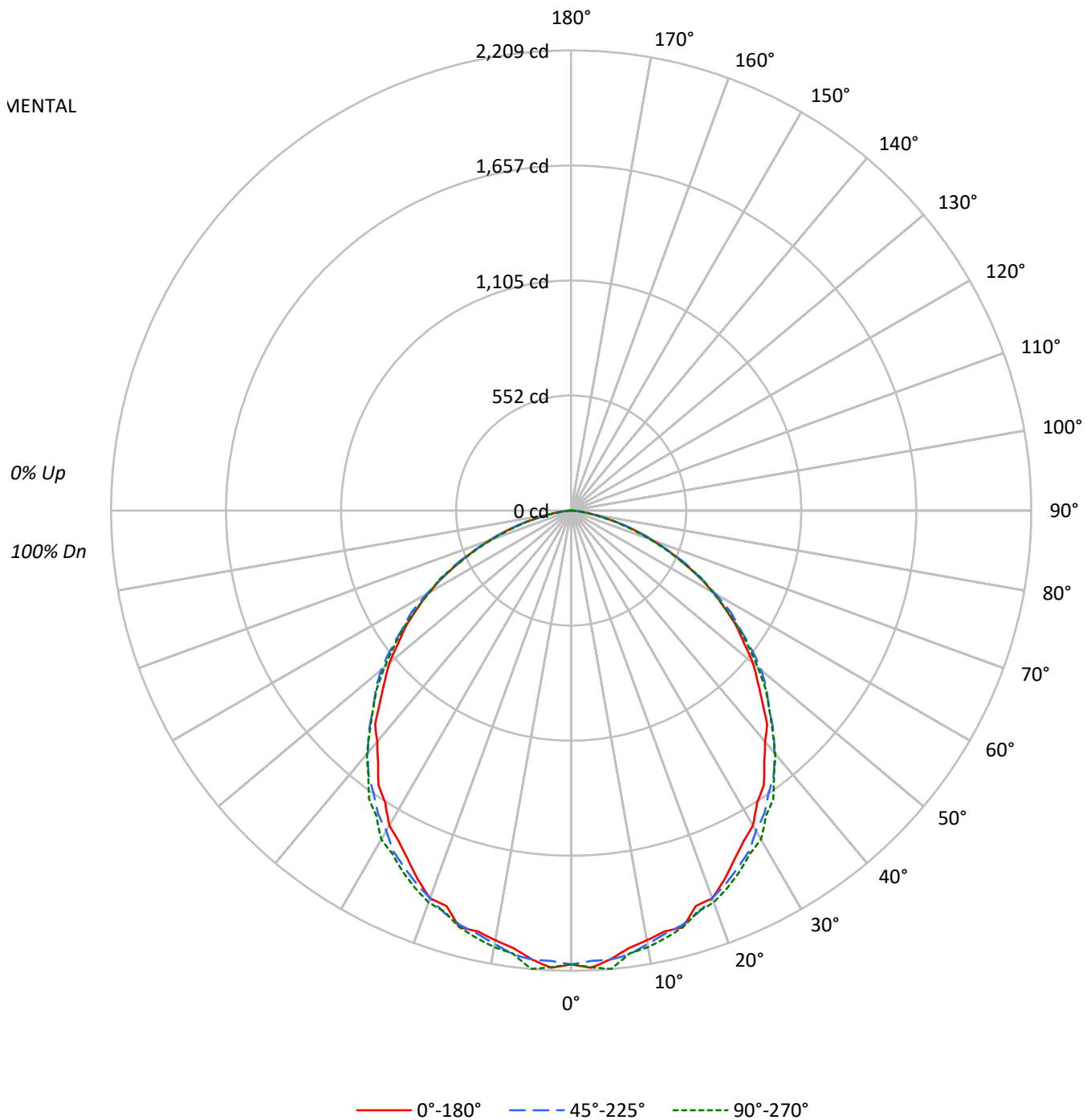
Lumens per Lamp: N/A  
Luminaire Lumens: 5489.0 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5861	5861	5861
5°	5841	5844	5967
10°	5723	5773	5814
15°	5768	5737	5769
20°	5671	5671	5731
25°	5496	5616	5678
30°	5421	5516	5663
35°	5293	5432	5554
40°	5087	5332	5356
45°	4933	5109	5116
50°	4771	4987	4891
55°	4546	4635	4601
60°	4251	4294	4216
65°	3791	3887	3764
70°	3253	3264	3172
75°	2575	2570	2470
80°	1726	1678	1612
85°	939	929	868

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5240 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	204.9	3.7
10°-20°	580.6	10.6
20°-30°	869.9	15.8
30°-40°	1031.0	18.8
40°-50°	1032.9	18.8
50°-60°	876.8	16.0
60°-70°	591.1	10.8
70°-80°	259.7	4.7
80°-90°	42.2	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°	1655.4	30.2
0°-40°	2686.3	48.9
0°-60°	4596.0	83.7
0°-90°	5489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5489.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2178	2178	2178	2178	2178	
5°	2162	2157	2163	2157	2209	204
15°	2070	2047	2059	2070	2071	577
25°	1851	1861	1892	1916	1912	856
35°	1611	1616	1654	1692	1691	1000
45°	1296	1320	1342	1377	1344	1003
55°	969	962	988	981	981	862
65°	595	587	610	587	591	592
75°	248	243	247	230	238	265
85°	30	30	30	29	28	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2177.9	2177.9	2177.9	2177.9	2177.9
2.5°	2196.7	2180.1	2164.7	2182.7	2193.6
5°	2162.4	2157.4	2163.3	2156.8	2208.8
7.5°	2118.0	2137.4	2148.7	2141.6	2144.7
10°	2094.4	2087.6	2112.7	2130.1	2127.6
12.5°	2069.1	2079.2	2080.6	2099.4	2101.1
15°	2070.5	2046.6	2059.2	2069.9	2070.8
17.5°	1990.1	2015.9	2024.6	2049.1	2018.7
20°	1980.2	1961.4	1980.2	2005.2	2001.3
22.5°	1919.8	1898.7	1939.2	1961.4	1960.0
25°	1851.1	1861.3	1891.6	1916.4	1912.4
27.5°	1791.0	1802.8	1846.1	1880.1	1858.2
30°	1744.6	1738.7	1775.2	1805.6	1822.5
32.5°	1661.6	1683.0	1725.7	1755.8	1739.8
35°	1611.3	1616.1	1653.5	1691.7	1690.6
37.5°	1523.3	1545.5	1598.1	1608.7	1598.9
40°	1448.2	1470.4	1517.9	1529.4	1524.7
42.5°	1392.8	1396.7	1437.5	1450.7	1429.6
45°	1296.3	1320.5	1342.5	1377.0	1344.4
47.5°	1214.2	1225.5	1272.7	1282.0	1264.8
50°	1139.7	1143.6	1191.2	1179.6	1168.4
52.5°	1046.1	1062.7	1089.4	1087.1	1073.9
55°	969.0	962.5	987.9	981.1	980.8
57.5°	876.5	887.7	908.6	897.9	880.7
60°	789.9	790.2	797.8	785.7	783.4
62.5°	693.4	696.8	698.5	683.6	707.8
65°	595.3	587.4	610.5	587.1	591.1
67.5°	505.0	509.0	506.7	492.1	497.7
70°	413.4	418.4	414.8	398.2	403.2
72.5°	329.6	323.4	327.3	306.5	316.1
75°	247.7	242.7	247.2	229.7	237.6
77.5°	168.7	172.7	169.8	160.6	165.9
80°	111.4	108.3	108.3	102.9	104.0
82.5°	65.0	61.9	61.0	59.3	61.9
85°	30.4	29.5	30.1	29.2	28.1
87.5°	11.0	11.2	11.2	10.7	10.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)