

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: P590696

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-82-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590696  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

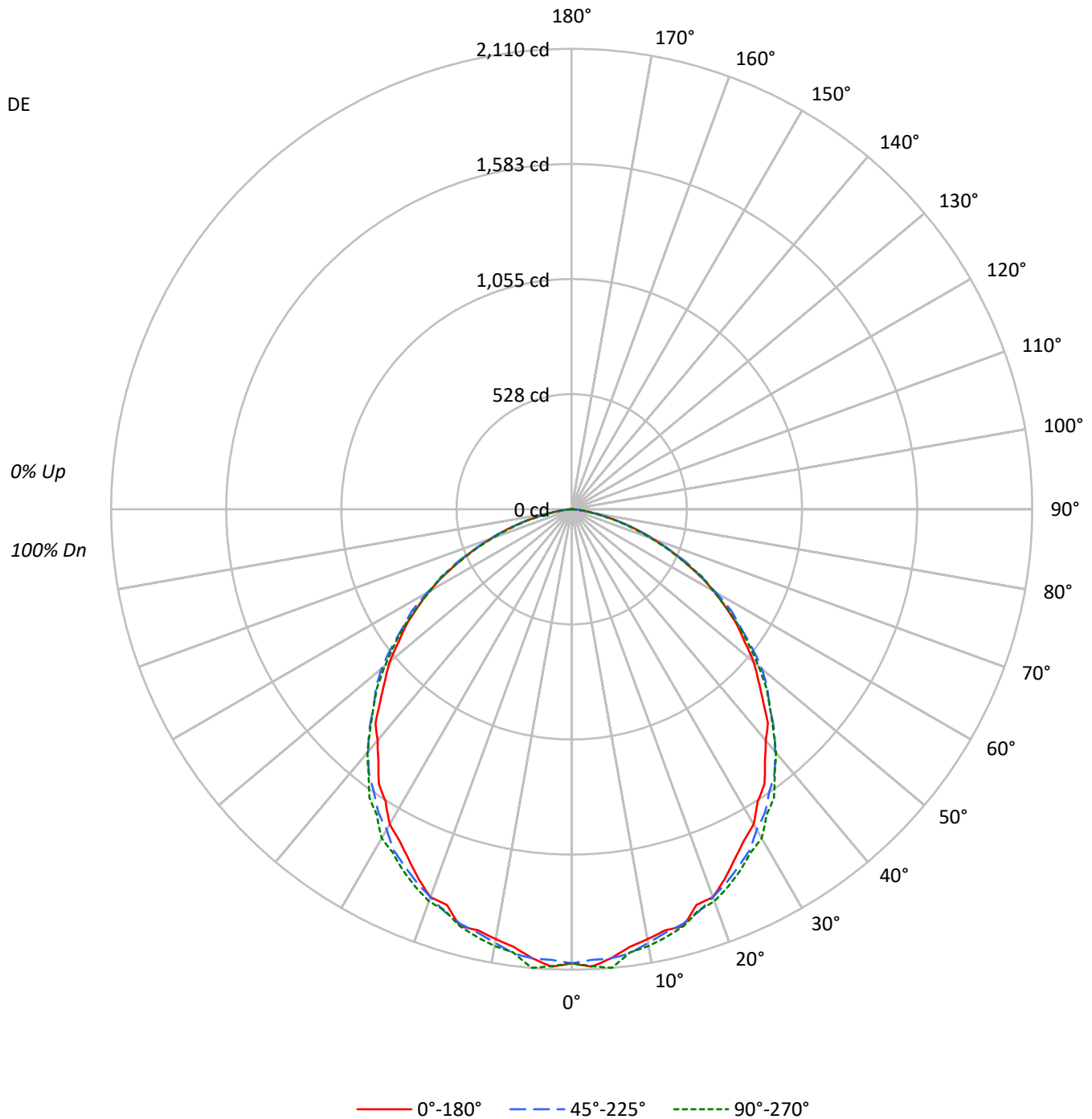
Lumens per Lamp: N/A  
Luminaire Lumens: 5243.0 lumens  
Efficiency: N/A  
Efficacy: 104.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5598	5598	5598
5°	5579	5582	5699
10°	5466	5514	5553
15°	5510	5480	5511
20°	5417	5417	5474
25°	5250	5365	5424
30°	5178	5269	5409
35°	5056	5188	5305
40°	4859	5093	5116
45°	4712	4880	4887
50°	4557	4763	4672
55°	4343	4427	4396
60°	4061	4101	4027
65°	3621	3713	3595
70°	3106	3117	3031
75°	2460	2455	2360
80°	1649	1602	1540
85°	895	886	831

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 5006 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.7	3.7
10°-20°	554.6	10.6
20°-30°	830.9	15.8
30°-40°	984.8	18.8
40°-50°	986.6	18.8
50°-60°	837.4	16.0
60°-70°	564.6	10.8
70°-80°	248.1	4.7
80°-90°	40.3	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°	1581.2	30.2
0°-40°	2565.9	48.9
0°-60°	4390.0	83.7
0°-90°	5243.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5243.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2080	2080	2080	2080	2080	
5°	2066	2061	2066	2060	2110	195
15°	1978	1955	1967	1977	1978	551
25°	1768	1778	1807	1830	1827	817
35°	1539	1544	1579	1616	1615	956
45°	1238	1261	1282	1315	1284	958
55°	926	919	944	937	937	823
65°	569	561	583	561	565	566
75°	237	232	236	219	227	254
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°	2080.3	2080.3	2080.3	2080.3	2080.3
2.5°	2098.3	2082.4	2067.7	2084.9	2095.3
5°	2065.5	2060.7	2066.3	2060.1	2109.8
7.5°	2023.1	2041.6	2052.4	2045.6	2048.6
10°	2000.5	1994.1	2018.0	2034.6	2032.2
12.5°	1976.3	1986.0	1987.4	2005.4	2007.0
15°	1977.7	1954.9	1966.9	1977.1	1978.0
17.5°	1900.9	1925.6	1933.9	1957.3	1928.3
20°	1891.5	1873.5	1891.5	1915.4	1911.6
22.5°	1833.7	1813.6	1852.3	1873.5	1872.1
25°	1768.2	1777.8	1806.9	1830.5	1826.7
27.5°	1710.7	1722.0	1763.3	1795.8	1774.9
30°	1666.4	1660.7	1695.7	1724.7	1740.8
32.5°	1587.1	1607.6	1648.4	1677.1	1661.8
35°	1539.1	1543.6	1579.4	1615.9	1614.8
37.5°	1455.0	1476.2	1526.4	1536.6	1527.2
40°	1383.3	1404.5	1449.9	1460.9	1456.3
42.5°	1330.4	1334.1	1373.1	1385.7	1365.6
45°	1238.2	1261.3	1282.3	1315.3	1284.2
47.5°	1159.8	1170.5	1215.7	1224.5	1208.2
50°	1088.6	1092.4	1137.8	1126.8	1116.0
52.5°	999.2	1015.0	1040.5	1038.4	1025.8
55°	925.6	919.4	943.6	937.1	936.9
57.5°	837.2	848.0	867.8	857.6	841.2
60°	754.5	754.8	762.0	750.5	748.3
62.5°	662.4	665.6	667.2	653.0	676.1
65°	568.6	561.1	583.1	560.8	564.6
67.5°	482.4	486.2	484.0	470.0	475.4
70°	394.8	399.7	396.2	380.3	385.2
72.5°	314.8	308.9	312.6	292.8	301.9
75°	236.6	231.8	236.1	219.4	227.0
77.5°	161.2	164.9	162.2	153.4	158.5
80°	106.4	103.4	103.4	98.3	99.4
82.5°	62.0	59.1	58.3	56.7	59.1
85°	29.0	28.2	28.7	27.9	26.9
87.5°	10.5	10.7	10.7	10.2	9.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)