

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: P562116

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562116  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-1HI-50-UNV-81-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

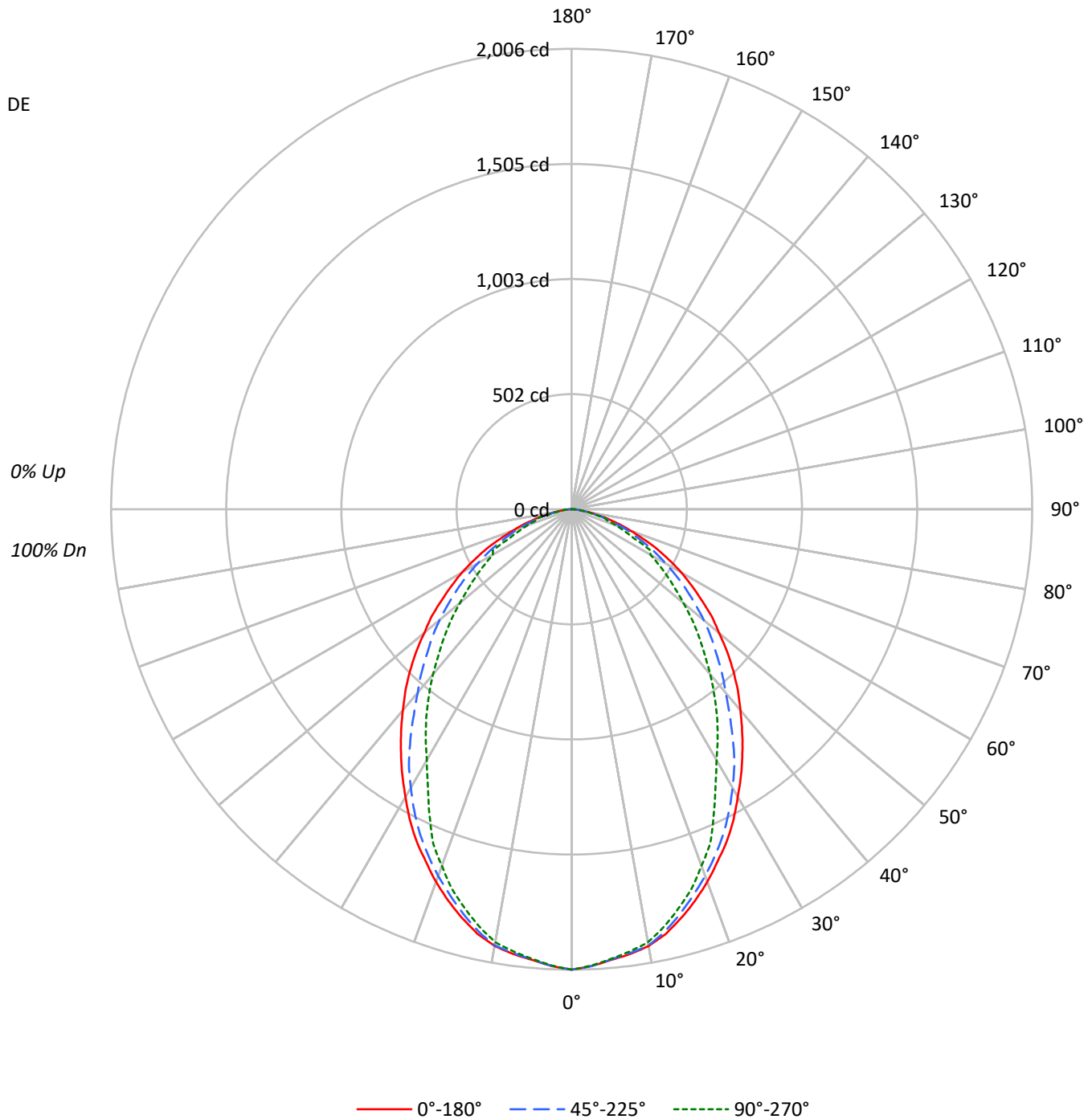
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3938.0 lumens  
Efficiency: N/A  
Efficacy: 91.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2699	2699	2699
5°	2662	2659	2656
10°	2639	2636	2617
15°	2568	2542	2507
20°	2474	2434	2368
25°	2372	2320	2176
30°	2248	2176	1960
35°	2129	2011	1813
40°	2008	1833	1650
45°	1893	1694	1491
50°	1752	1573	1330
55°	1621	1425	1191
60°	1485	1273	1067
65°	1307	1115	945
70°	1076	976	803
75°	856	748	783
80°	575	539	503
85°	358	429	502

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1893 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.7	4.7
10°-20°	512.5	13.0
20°-30°	709.5	18.0
30°-40°	756.5	19.2
40°-50°	690.1	17.5
50°-60°	540.7	13.7
60°-70°	352.4	8.9
70°-80°	156.1	4.0
80°-90°	33.5	0.9
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°	1408.7	35.8
0°-40°	2165.2	55.0
0°-60°	3396.0	86.2
0°-90°	3938.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3938.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2006	2006	2006	2006	2006	
5°	1971	1969	1969	1966	1966	187
15°	1844	1844	1825	1806	1800	518
25°	1598	1588	1563	1507	1466	734
35°	1296	1287	1224	1132	1104	810
45°	995	974	890	816	784	766
55°	691	670	608	536	508	620
65°	410	387	350	357	297	405
75°	165	153	144	137	151	176
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2006.0	2006.0	2006.0	2006.0	2006.0
2.5°	1992.1	1992.1	1992.1	1989.7	1989.7
5°	1971.2	1968.9	1968.9	1966.5	1966.5
7.5°	1954.9	1952.6	1950.3	1948.0	1943.4
10°	1931.8	1931.8	1929.4	1917.8	1915.5
12.5°	1894.7	1892.3	1883.1	1866.8	1862.2
15°	1843.6	1843.6	1825.1	1806.5	1799.6
17.5°	1788.0	1785.7	1762.5	1743.9	1734.6
20°	1727.7	1723.0	1699.9	1669.7	1653.5
22.5°	1660.4	1660.4	1632.6	1593.2	1576.9
25°	1597.8	1588.5	1563.0	1507.4	1465.6
27.5°	1525.9	1512.0	1484.2	1405.3	1356.6
30°	1447.1	1440.1	1400.7	1298.7	1261.6
32.5°	1372.9	1361.3	1319.5	1212.9	1182.7
35°	1296.3	1287.1	1224.5	1131.7	1103.9
37.5°	1219.8	1208.2	1129.4	1055.2	1020.4
40°	1143.3	1129.4	1043.6	976.3	939.2
42.5°	1071.4	1052.8	969.4	897.5	855.7
45°	994.9	974.0	890.5	816.3	783.8
47.5°	918.3	899.8	823.3	746.7	709.6
50°	837.2	820.9	751.4	674.8	635.4
52.5°	769.9	744.4	677.2	600.6	568.2
55°	691.1	670.2	607.6	535.7	507.9
57.5°	619.2	598.3	540.3	473.1	449.9
60°	551.9	521.8	473.1	415.1	396.6
62.5°	477.7	454.5	412.8	364.1	387.3
65°	410.5	387.3	350.2	357.1	296.8
67.5°	336.3	324.7	292.2	259.7	250.5
70°	273.6	259.7	248.1	213.4	204.1
72.5°	218.0	204.1	187.8	169.3	162.3
75°	164.7	153.1	143.8	136.8	150.7
77.5°	113.6	109.0	102.0	95.1	92.8
80°	74.2	71.9	69.6	67.3	64.9
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.8	30.1	32.5
87.5°	13.9	13.9	16.2	18.6	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)