

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: P562467

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562467  
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-LD4-1STD-50-UNV-93-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

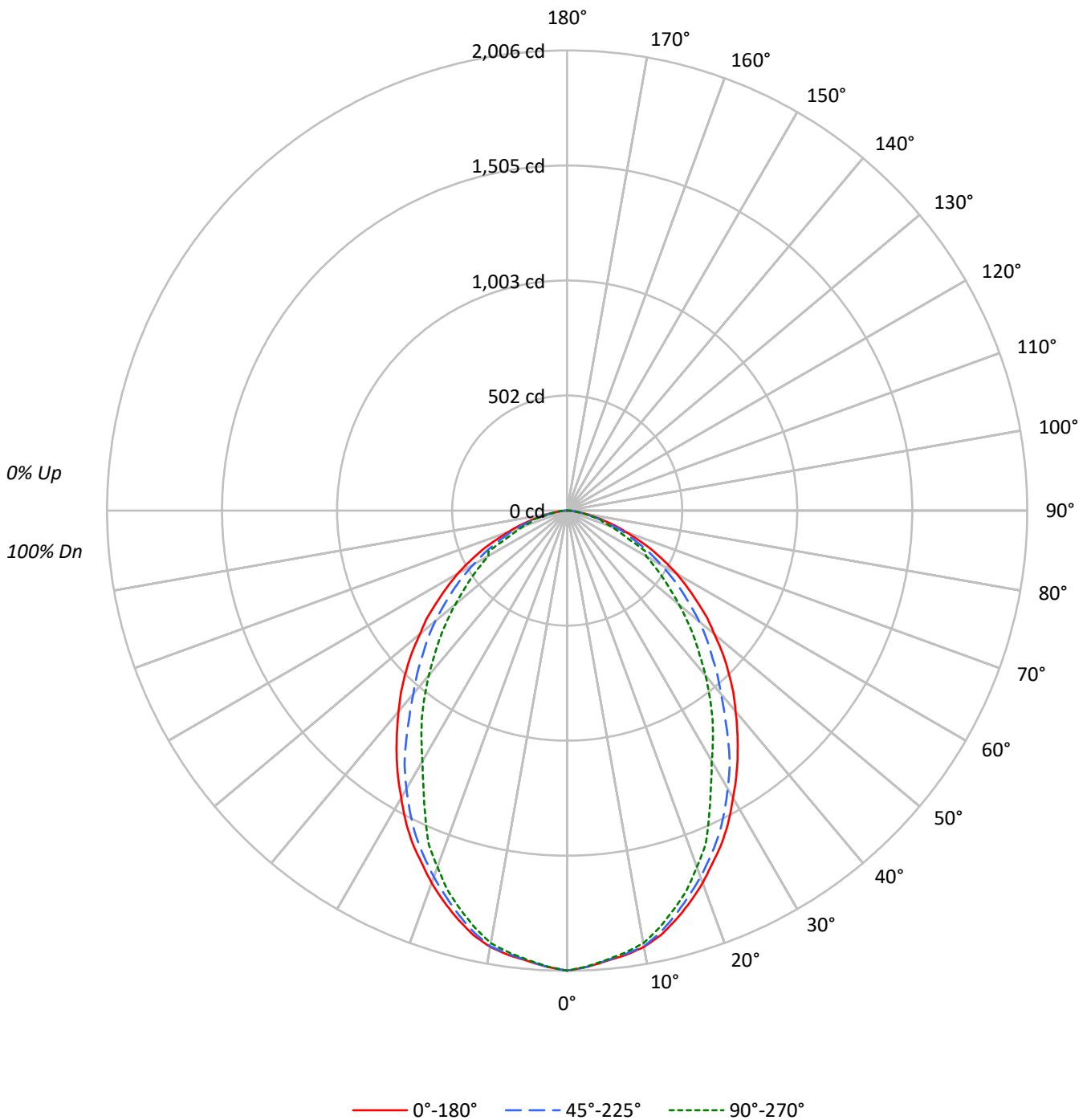
Lumens per Lamp: N/A  
Luminaire Lumens: 3937.0 lumens  
Efficiency: N/A  
Efficacy: 118.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2698	2698	2698
5°	2662	2659	2655
10°	2639	2635	2616
15°	2567	2542	2506
20°	2473	2433	2367
25°	2371	2320	2175
30°	2248	2176	1959
35°	2129	2011	1813
40°	2008	1832	1649
45°	1893	1694	1491
50°	1752	1572	1330
55°	1621	1425	1191
60°	1485	1273	1067
65°	1307	1115	945
70°	1076	976	803
75°	856	747	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°	512.3	13.0
20°-30°	709.3	18.0
30°-40°	756.3	19.2
40°-50°	690.0	17.5
50°-60°	540.5	13.7
60°-70°	352.3	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°	1408.3	35.8
0°-40°	2164.6	55.0
0°-60°	3395.1	86.2
0°-90°	3937.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3937.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2006	2006	2006	2006	2006	
5°	1971	1968	1968	1966	1966	187
15°	1843	1843	1825	1806	1799	518
25°	1597	1588	1563	1507	1465	733
35°	1296	1287	1224	1131	1104	810
45°	995	974	890	816	784	766
55°	691	670	607	536	508	620
65°	410	387	350	357	297	404
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°	2005.5	2005.5	2005.5	2005.5	2005.5
2.5°	1991.5	1991.5	1991.5	1989.2	1989.2
5°	1970.7	1968.4	1968.4	1966.0	1966.0
7.5°	1954.4	1952.1	1949.8	1947.5	1942.9
10°	1931.3	1931.3	1928.9	1917.4	1915.0
12.5°	1894.2	1891.9	1882.6	1866.3	1861.7
15°	1843.2	1843.2	1824.6	1806.1	1799.1
17.5°	1787.5	1785.2	1762.0	1743.5	1734.2
20°	1727.2	1722.6	1699.4	1669.3	1653.1
22.5°	1660.0	1660.0	1632.2	1592.8	1576.5
25°	1597.4	1588.1	1562.6	1507.0	1465.3
27.5°	1525.5	1511.6	1483.8	1405.0	1356.3
30°	1446.7	1439.8	1400.3	1298.3	1261.2
32.5°	1372.5	1360.9	1319.2	1212.5	1182.4
35°	1296.0	1286.7	1224.1	1131.4	1103.6
37.5°	1219.5	1207.9	1129.1	1054.9	1020.1
40°	1143.0	1129.1	1043.3	976.1	939.0
42.5°	1071.1	1052.6	969.1	897.2	855.5
45°	994.6	973.7	890.3	816.1	783.6
47.5°	918.1	899.6	823.0	746.5	709.4
50°	837.0	820.7	751.2	674.7	635.3
52.5°	769.7	744.2	677.0	600.5	568.0
55°	690.9	670.0	607.4	535.6	507.7
57.5°	619.0	598.2	540.2	473.0	449.8
60°	551.8	521.7	473.0	415.0	396.5
62.5°	477.6	454.4	412.7	364.0	387.2
65°	410.4	387.2	350.1	357.0	296.8
67.5°	336.2	324.6	292.1	259.7	250.4
70°	273.6	259.7	248.1	213.3	204.0
72.5°	217.9	204.0	187.8	169.2	162.3
75°	164.6	153.0	143.7	136.8	150.7
77.5°	113.6	109.0	102.0	95.1	92.7
80°	74.2	71.9	69.6	67.2	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	18.5	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)