

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: P562126

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-81-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562126  
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-81-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

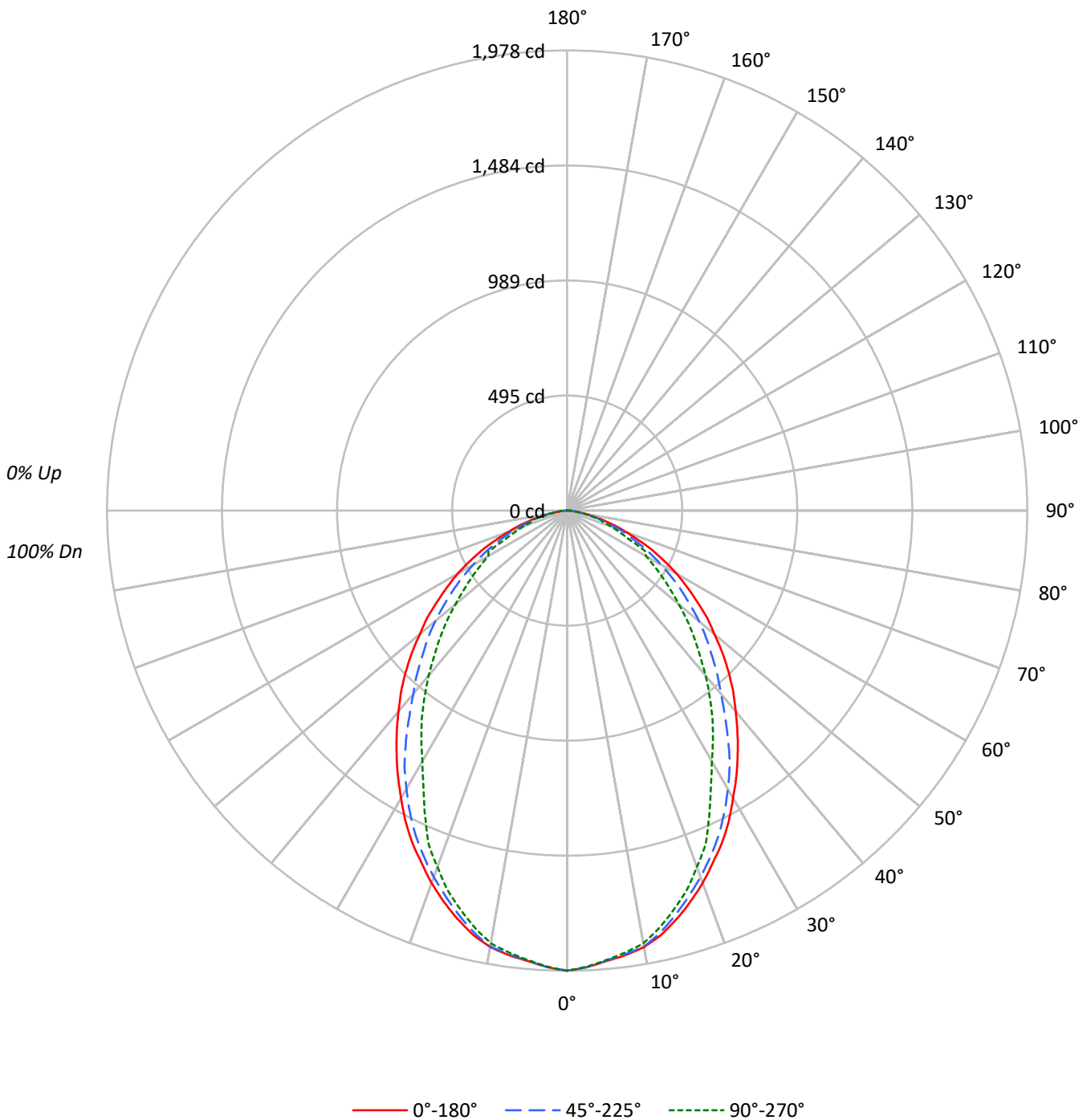
Lumens per Lamp: N/A  
Luminaire Lumens: 3883.0 lumens  
Efficiency: N/A  
Efficacy: 89.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2661	2661	2661
5°	2625	2622	2619
10°	2602	2599	2581
15°	2532	2507	2472
20°	2439	2400	2334
25°	2339	2288	2146
30°	2217	2146	1933
35°	2099	1983	1788
40°	1980	1807	1627
45°	1867	1671	1471
50°	1728	1551	1311
55°	1598	1405	1175
60°	1464	1255	1052
65°	1288	1099	932
70°	1061	963	792
75°	844	737	773
80°	567	532	496
85°	354	423	494

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1867 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	184.1	4.7
10°-20°	505.3	13.0
20°-30°	699.6	18.0
30°-40°	745.9	19.2
40°-50°	680.5	17.5
50°-60°	533.1	13.7
60°-70°	347.5	8.9
70°-80°	153.9	4.0
80°-90°	33.0	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°	1389.0	35.8
0°-40°	2134.9	55.0
0°-60°	3348.5	86.2
0°-90°	3883.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3883.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1978	1978	1978	1978	1978	
5°	1944	1941	1941	1939	1939	184
15°	1818	1818	1800	1781	1774	511
25°	1576	1566	1541	1486	1445	723
35°	1278	1269	1207	1116	1088	799
45°	981	960	878	805	773	756
55°	681	661	599	528	501	611
65°	405	382	345	352	293	399
75°	162	151	142	135	149	174
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1977.9	1977.9	1977.9	1977.9	1977.9
2.5°	1964.2	1964.2	1964.2	1961.9	1961.9
5°	1943.6	1941.4	1941.4	1939.1	1939.1
7.5°	1927.6	1925.4	1923.1	1920.8	1916.2
10°	1904.8	1904.8	1902.5	1891.1	1888.8
12.5°	1868.2	1865.9	1856.8	1840.7	1836.2
15°	1817.9	1817.9	1799.6	1781.3	1774.4
17.5°	1763.0	1760.7	1737.9	1719.6	1710.4
20°	1703.6	1699.0	1676.1	1646.4	1630.4
22.5°	1637.2	1637.2	1609.8	1570.9	1554.9
25°	1575.5	1566.4	1541.2	1486.3	1445.2
27.5°	1504.6	1490.9	1463.5	1385.7	1337.7
30°	1426.9	1420.0	1381.1	1280.5	1243.9
32.5°	1353.7	1342.3	1301.1	1195.9	1166.2
35°	1278.2	1269.1	1207.3	1115.9	1088.4
37.5°	1202.8	1191.3	1113.6	1040.4	1006.1
40°	1127.3	1113.6	1029.0	962.7	926.1
42.5°	1056.4	1038.1	955.8	884.9	843.8
45°	981.0	960.4	878.1	804.9	772.9
47.5°	905.5	887.2	811.8	736.3	699.7
50°	825.5	809.5	740.9	665.4	626.5
52.5°	759.2	734.0	667.7	592.2	560.2
55°	681.4	660.8	599.1	528.2	500.8
57.5°	610.5	590.0	532.8	466.5	443.6
60°	544.2	514.5	466.5	409.3	391.0
62.5°	471.0	448.2	407.0	359.0	381.9
65°	404.7	381.9	345.3	352.1	292.7
67.5°	331.6	320.1	288.1	256.1	247.0
70°	269.8	256.1	244.7	210.4	201.2
72.5°	214.9	201.2	185.2	166.9	160.1
75°	162.4	150.9	141.8	134.9	148.6
77.5°	112.0	107.5	100.6	93.8	91.5
80°	73.2	70.9	68.6	66.3	64.0
82.5°	43.4	43.4	43.4	43.4	43.4
85°	22.9	25.2	27.4	29.7	32.0
87.5°	13.7	13.7	16.0	18.3	20.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)