

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: P562776

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562776  
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-LD4-2LO-40-UNV-82-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

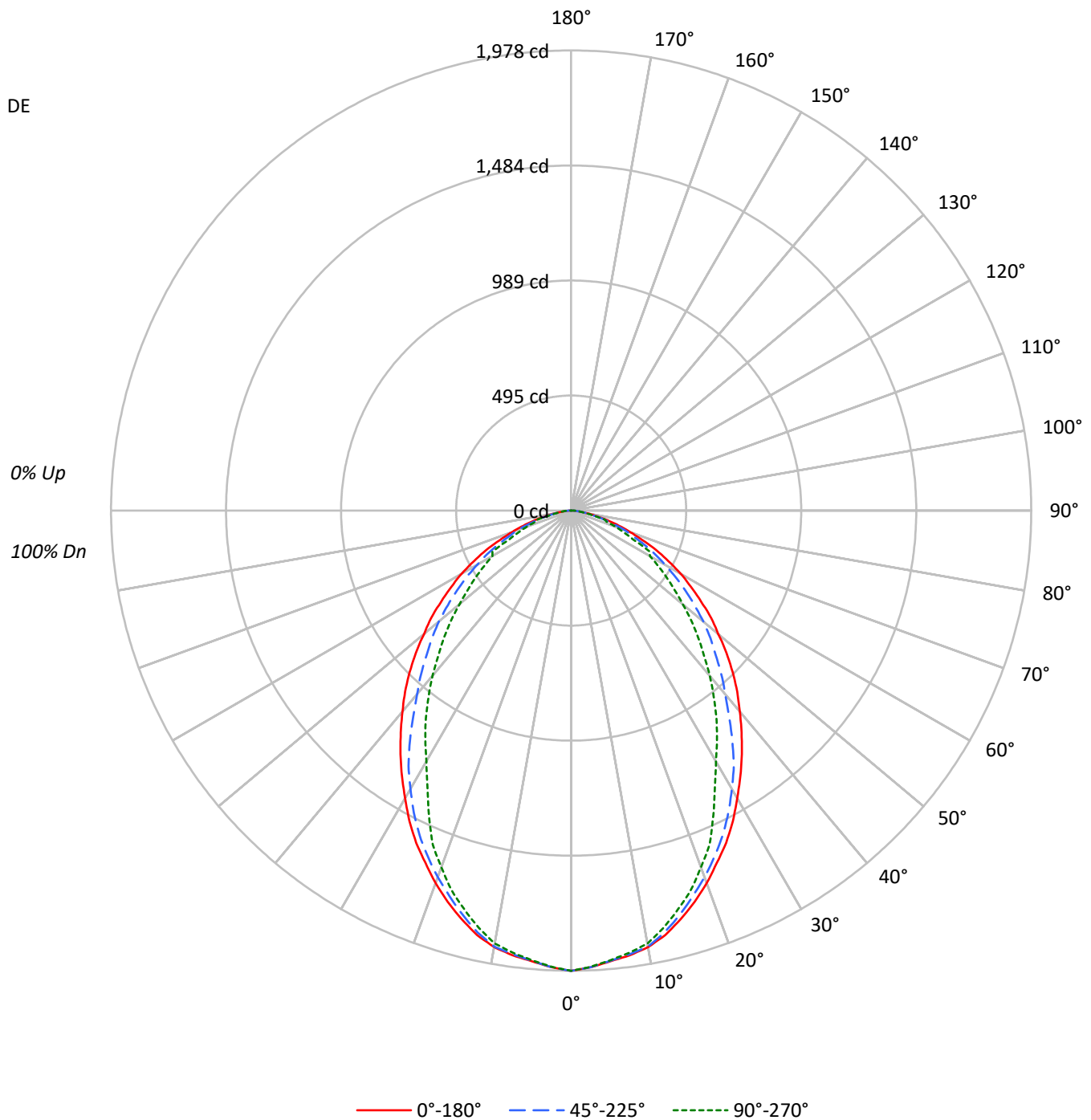
Lumens per Lamp: N/A  
Luminaire Lumens: 3884.0 lumens  
Efficiency: N/A  
Efficacy: 83.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

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

	0°	45°	90°
0°	2662	2662	2662
5°	2626	2623	2620
10°	2603	2600	2581
15°	2533	2507	2472
20°	2440	2400	2335
25°	2340	2289	2146
30°	2217	2146	1933
35°	2100	1984	1788
40°	1981	1808	1627
45°	1867	1671	1471
50°	1728	1551	1312
55°	1599	1406	1175
60°	1465	1256	1052
65°	1289	1100	932
70°	1062	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°	184.2	4.7
10°-20°	505.4	13.0
20°-30°	699.7	18.0
30°-40°	746.1	19.2
40°-50°	680.7	17.5
50°-60°	533.3	13.7
60°-70°	347.6	8.9
70°-80°	154.0	4.0
80°-90°	33.1	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°	1389.3	35.8
0°-40°	2135.5	55.0
0°-60°	3349.4	86.2
0°-90°	3884.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3884.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1978	1978	1978	1978	1978	
5°	1944	1942	1942	1940	1940	185
15°	1818	1818	1800	1782	1775	511
25°	1576	1567	1542	1487	1446	723
35°	1279	1269	1208	1116	1089	799
45°	981	961	878	805	773	756
55°	682	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°	1978.5	1978.5	1978.5	1978.5	1978.5
2.5°	1964.7	1964.7	1964.7	1962.4	1962.4
5°	1944.1	1941.9	1941.9	1939.6	1939.6
7.5°	1928.1	1925.9	1923.6	1921.3	1916.7
10°	1905.3	1905.3	1903.0	1891.5	1889.3
12.5°	1868.7	1866.4	1857.2	1841.2	1836.6
15°	1818.4	1818.4	1800.1	1781.8	1774.9
17.5°	1763.5	1761.2	1738.3	1720.0	1710.9
20°	1704.0	1699.4	1676.5	1646.8	1630.8
22.5°	1637.7	1637.7	1610.2	1571.3	1555.3
25°	1575.9	1566.8	1541.6	1486.7	1445.5
27.5°	1505.0	1491.3	1463.8	1386.1	1338.0
30°	1427.2	1420.4	1381.5	1280.9	1244.3
32.5°	1354.0	1342.6	1301.4	1196.2	1166.5
35°	1278.6	1269.4	1207.7	1116.2	1088.7
37.5°	1203.1	1191.6	1113.9	1040.7	1006.4
40°	1127.6	1113.9	1029.3	962.9	926.3
42.5°	1056.7	1038.4	956.1	885.2	844.0
45°	981.2	960.6	878.3	805.1	773.1
47.5°	905.7	887.4	812.0	736.5	699.9
50°	825.7	809.7	741.1	665.6	626.7
52.5°	759.4	734.2	667.9	592.4	560.4
55°	681.6	661.0	599.3	528.4	500.9
57.5°	610.7	590.1	532.9	466.6	443.7
60°	544.4	514.6	466.6	409.4	391.1
62.5°	471.2	448.3	407.1	359.1	382.0
65°	404.8	382.0	345.4	352.2	292.8
67.5°	331.6	320.2	288.2	256.2	247.0
70°	269.9	256.2	244.7	210.4	201.3
72.5°	215.0	201.3	185.3	167.0	160.1
75°	162.4	151.0	141.8	134.9	148.7
77.5°	112.1	107.5	100.6	93.8	91.5
80°	73.2	70.9	68.6	66.3	64.0
82.5°	43.5	43.5	43.5	43.5	43.5
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)