

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: P562838

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562838  
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-50-UNV-82-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

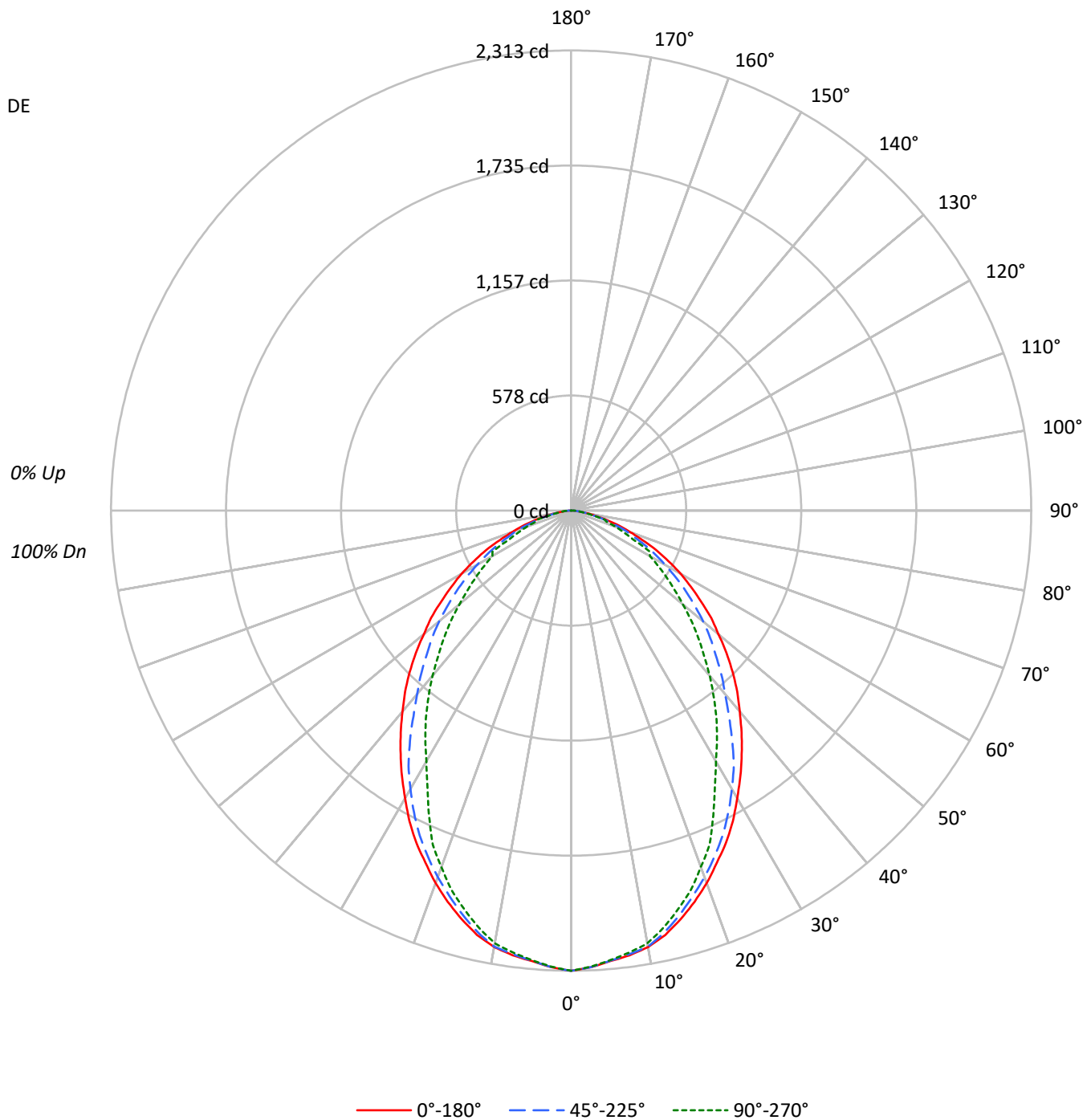
Lumens per Lamp: N/A  
Luminaire Lumens: 4541.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3112	3112	3112
5°	3070	3066	3063
10°	3043	3040	3018
15°	2961	2931	2891
20°	2853	2807	2730
25°	2735	2676	2509
30°	2593	2509	2260
35°	2455	2319	2091
40°	2315	2114	1902
45°	2183	1954	1720
50°	2021	1814	1534
55°	1869	1643	1374
60°	1713	1468	1231
65°	1507	1286	1090
70°	1241	1126	926
75°	987	862	904
80°	663	621	580
85°	412	496	577

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2183 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	215.3	4.7
10°-20°	590.9	13.0
20°-30°	818.1	18.0
30°-40°	872.3	19.2
40°-50°	795.8	17.5
50°-60°	623.5	13.7
60°-70°	406.3	8.9
70°-80°	180.0	4.0
80°-90°	38.6	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°	1624.4	35.8
0°-40°	2496.7	55.0
0°-60°	3916.0	86.2
0°-90°	4541.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4541.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2313	2313	2313	2313	2313	
5°	2273	2270	2270	2268	2268	216
15°	2126	2126	2104	2083	2075	598
25°	1842	1832	1802	1738	1690	846
35°	1495	1484	1412	1305	1273	935
45°	1147	1123	1027	941	904	884
55°	797	773	701	618	586	715
65°	473	447	404	412	342	466
75°	190	176	166	158	174	203
85°	27	29	32	35	37	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2313.1	2313.1	2313.1	2313.1	2313.1
2.5°	2297.1	2297.1	2297.1	2294.4	2294.4
5°	2273.0	2270.3	2270.3	2267.7	2267.7
7.5°	2254.3	2251.6	2248.9	2246.3	2240.9
10°	2227.6	2227.6	2224.9	2211.5	2208.8
12.5°	2184.8	2182.1	2171.4	2152.7	2147.3
15°	2125.9	2125.9	2104.5	2083.1	2075.1
17.5°	2061.8	2059.1	2032.3	2010.9	2000.3
20°	1992.2	1986.9	1960.1	1925.4	1906.7
22.5°	1914.7	1914.7	1882.6	1837.1	1818.4
25°	1842.5	1831.8	1802.4	1738.2	1690.1
27.5°	1759.6	1743.5	1711.4	1620.5	1564.4
30°	1668.7	1660.6	1615.2	1497.5	1454.7
32.5°	1583.1	1569.7	1521.6	1398.6	1363.8
35°	1494.8	1484.1	1411.9	1305.0	1272.9
37.5°	1406.6	1393.2	1302.3	1216.7	1176.6
40°	1318.3	1302.3	1203.4	1125.8	1083.0
42.5°	1235.4	1214.1	1117.8	1034.9	986.8
45°	1147.2	1123.1	1026.9	941.3	903.9
47.5°	1059.0	1037.6	949.3	861.1	818.3
50°	965.4	946.6	866.4	778.2	732.7
52.5°	887.8	858.4	780.8	692.6	655.2
55°	796.9	772.8	700.6	617.7	585.6
57.5°	714.0	689.9	623.1	545.5	518.8
60°	636.4	601.7	545.5	478.7	457.3
62.5°	550.9	524.1	476.0	419.8	446.6
65°	473.3	446.6	403.8	411.8	342.3
67.5°	387.7	374.4	336.9	299.5	288.8
70°	315.5	299.5	286.1	246.0	235.3
72.5°	251.4	235.3	216.6	195.2	187.2
75°	189.9	176.5	165.8	157.8	173.8
77.5°	131.0	125.7	117.7	109.6	107.0
80°	85.6	82.9	80.2	77.5	74.9
82.5°	50.8	50.8	50.8	50.8	50.8
85°	26.7	29.4	32.1	34.8	37.4
87.5°	16.0	16.0	18.7	21.4	24.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)