

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: P561813

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561813  
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-12-4-LD4-2STD-40-UNV-82-86-EDD  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

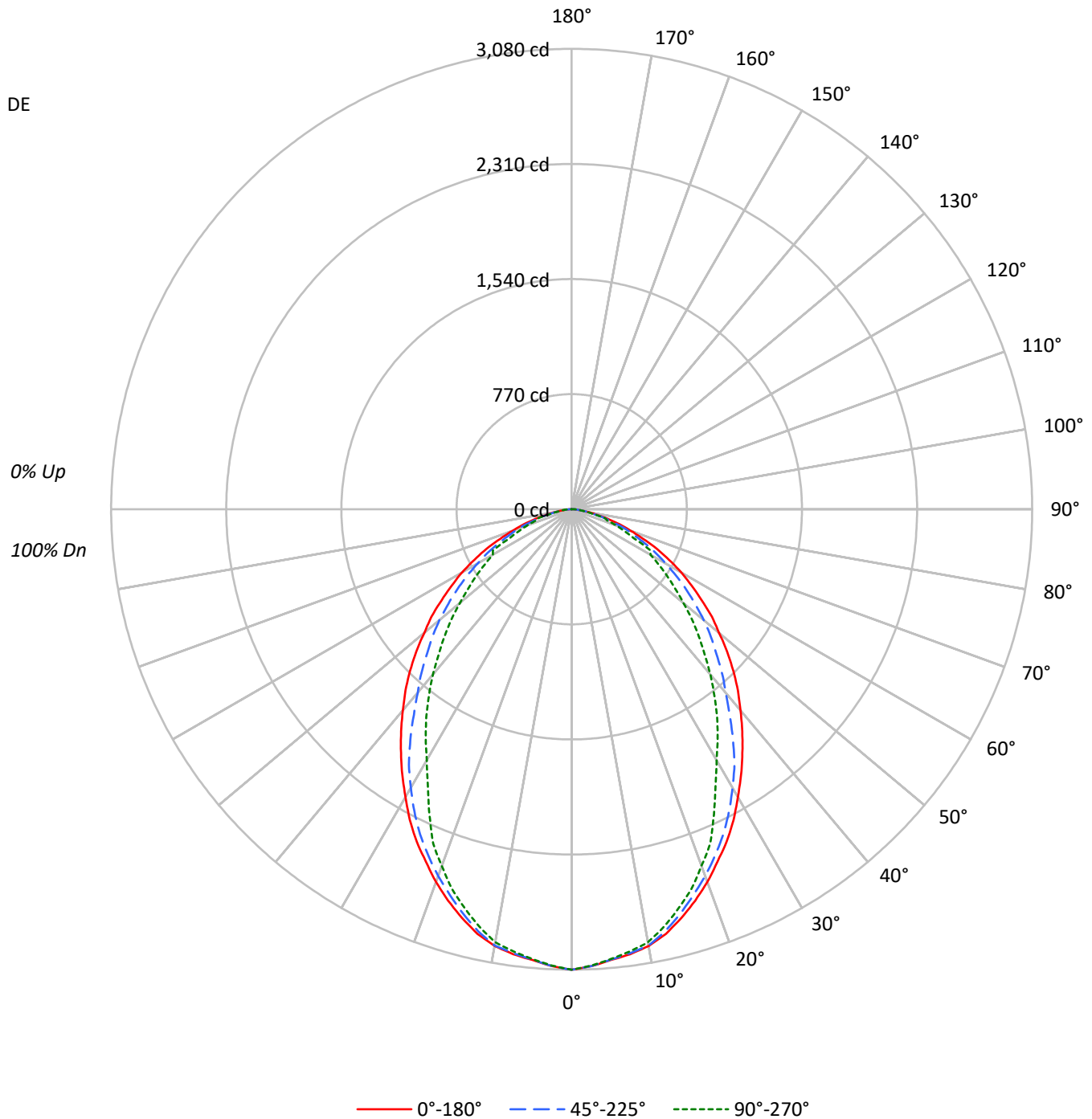
Lumens per Lamp: N/A  
Luminaire Lumens: 6047.0 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	8289	8289	8289
5°	8176	8167	8157
10°	8105	8096	8037
15°	7887	7808	7698
20°	7597	7475	7271
25°	7285	7126	6682
30°	6905	6683	6019
35°	6539	6177	5568
40°	6167	5629	5066
45°	5814	5204	4580
50°	5382	4830	4085
55°	4979	4377	3659
60°	4561	3909	3277
65°	4013	3424	2902
70°	3306	2998	2466
75°	2628	2296	2407
80°	1767	1655	1545
85°	1099	1318	1541

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5814 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	286.7	4.7
10°-20°	786.9	13.0
20°-30°	1089.4	18.0
30°-40°	1161.6	19.2
40°-50°	1059.8	17.5
50°-60°	830.2	13.7
60°-70°	541.1	8.9
70°-80°	239.7	4.0
80°-90°	51.5	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°	2163.1	35.8
0°-40°	3324.7	55.0
0°-60°	5214.7	86.2
0°-90°	6047.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6047.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3080	3080	3080	3080	3080	
5°	3027	3023	3023	3020	3020	287
15°	2831	2831	2802	2774	2763	796
25°	2454	2439	2400	2315	2250	1126
35°	1991	1976	1880	1738	1695	1244
45°	1528	1496	1367	1254	1204	1177
55°	1061	1029	933	823	780	952
65°	630	595	538	548	456	621
75°	253	235	221	210	232	271
85°	36	39	43	46	50	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3080.3	3080.3	3080.3	3080.3	3080.3
2.5°	3058.9	3058.9	3058.9	3055.3	3055.3
5°	3026.8	3023.3	3023.3	3019.7	3019.7
7.5°	3001.9	2998.4	2994.8	2991.2	2984.1
10°	2966.3	2966.3	2962.7	2944.9	2941.4
12.5°	2909.3	2905.8	2891.5	2866.6	2859.5
15°	2831.0	2831.0	2802.5	2774.0	2763.3
17.5°	2745.5	2742.0	2706.4	2677.9	2663.6
20°	2652.9	2645.8	2610.2	2563.9	2539.0
22.5°	2549.7	2549.7	2506.9	2446.4	2421.5
25°	2453.5	2439.3	2400.1	2314.6	2250.5
27.5°	2343.1	2321.8	2279.0	2158.0	2083.2
30°	2222.1	2211.4	2150.8	1994.2	1937.2
32.5°	2108.1	2090.3	2026.2	1862.4	1816.1
35°	1990.6	1976.4	1880.2	1737.8	1695.0
37.5°	1873.1	1855.3	1734.2	1620.3	1566.8
40°	1755.6	1734.2	1602.4	1499.2	1442.2
42.5°	1645.2	1616.7	1488.5	1378.1	1314.0
45°	1527.7	1495.6	1367.4	1253.5	1203.6
47.5°	1410.2	1381.7	1264.2	1146.6	1089.7
50°	1285.5	1260.6	1153.8	1036.2	975.7
52.5°	1182.3	1143.1	1039.8	922.3	872.4
55°	1061.2	1029.1	933.0	822.6	779.9
57.5°	950.8	918.7	829.7	726.4	690.8
60°	847.5	801.2	726.4	637.4	608.9
62.5°	733.6	698.0	633.9	559.1	594.7
65°	630.3	594.7	537.7	548.4	455.8
67.5°	516.3	498.5	448.7	398.8	384.6
70°	420.2	398.8	381.0	327.6	313.4
72.5°	334.7	313.4	288.4	260.0	249.3
75°	252.8	235.0	220.8	210.1	231.5
77.5°	174.5	167.4	156.7	146.0	142.4
80°	114.0	110.4	106.8	103.3	99.7
82.5°	67.7	67.7	67.7	67.7	67.7
85°	35.6	39.2	42.7	46.3	49.9
87.5°	21.4	21.4	24.9	28.5	32.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)