

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: P563010

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563010  
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-LD4-2STD-50-UNV-81-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

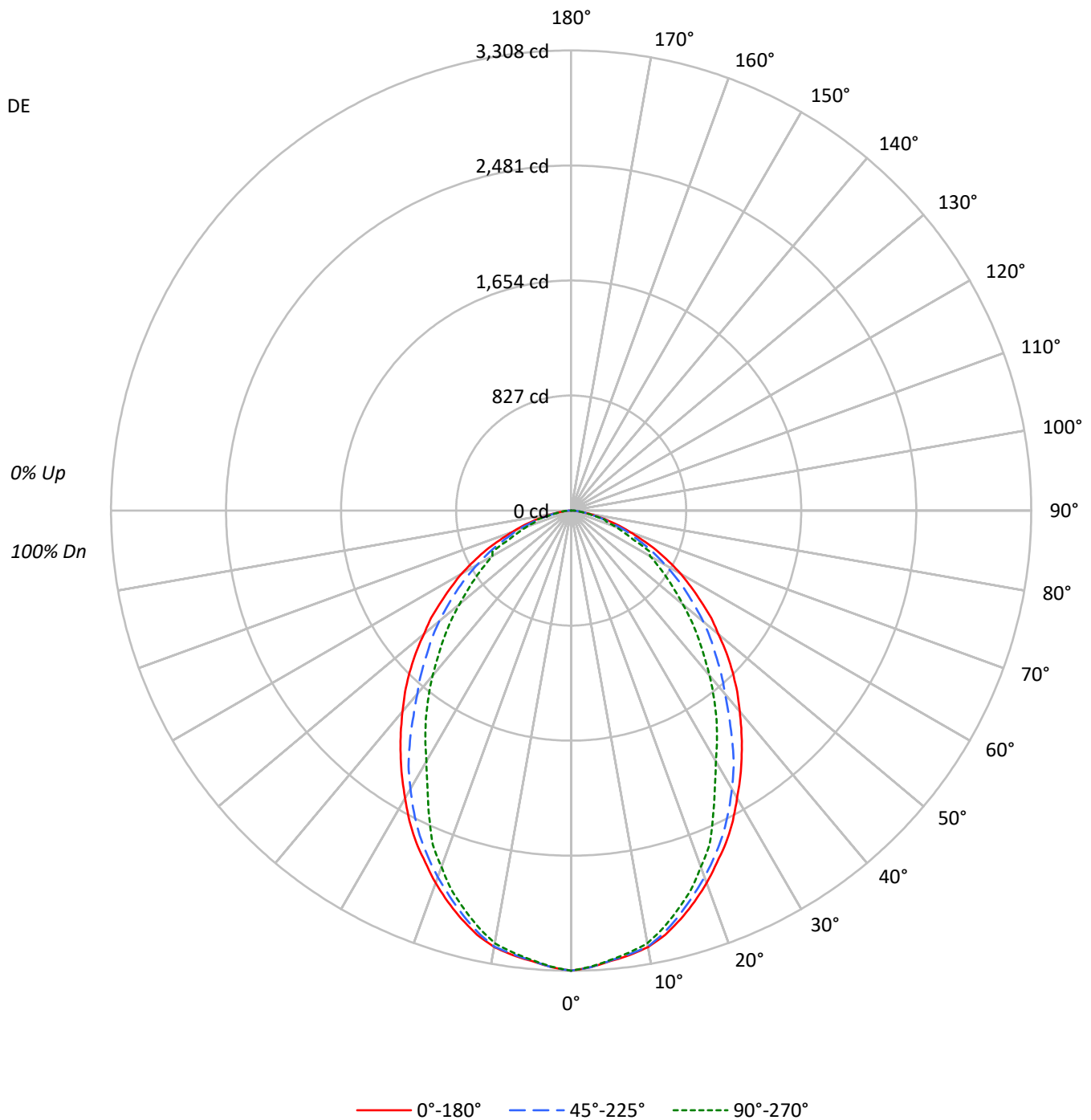
Lumens per Lamp: N/A  
Luminaire Lumens: 6494.0 lumens  
Efficiency: N/A  
Efficacy: 97.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4451	4451	4451
5°	4390	4385	4380
10°	4352	4347	4316
15°	4235	4192	4134
20°	4079	4014	3904
25°	3912	3827	3588
30°	3707	3589	3232
35°	3511	3317	2990
40°	3311	3023	2720
45°	3122	2794	2460
50°	2890	2593	2193
55°	2673	2350	1965
60°	2449	2099	1760
65°	2155	1839	1558
70°	1775	1610	1324
75°	1411	1233	1292
80°	948	889	830
85°	590	709	826

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3122 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	307.9	4.7
10°-20°	845.1	13.0
20°-30°	1169.9	18.0
30°-40°	1247.5	19.2
40°-50°	1138.1	17.5
50°-60°	891.6	13.7
60°-70°	581.1	8.9
70°-80°	257.5	4.0
80°-90°	55.3	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°	2323.0	35.8
0°-40°	3570.5	55.0
0°-60°	5600.2	86.2
0°-90°	6494.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6494.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3308	3308	3308	3308	3308	
5°	3251	3247	3247	3243	3243	309
15°	3040	3040	3010	2979	2968	855
25°	2635	2620	2578	2486	2417	1210
35°	2138	2122	2019	1866	1820	1336
45°	1641	1606	1468	1346	1293	1264
55°	1140	1105	1002	883	838	1022
65°	677	639	578	589	490	667
75°	272	252	237	226	249	291
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3308.0	3308.0	3308.0	3308.0	3308.0
2.5°	3285.0	3285.0	3285.0	3281.2	3281.2
5°	3250.6	3246.8	3246.8	3242.9	3242.9
7.5°	3223.8	3220.0	3216.2	3212.4	3204.7
10°	3185.6	3185.6	3181.8	3162.6	3158.8
12.5°	3124.4	3120.6	3105.3	3078.5	3070.9
15°	3040.3	3040.3	3009.7	2979.1	2967.6
17.5°	2948.5	2944.7	2906.4	2875.8	2860.5
20°	2849.0	2841.4	2803.2	2753.4	2726.7
22.5°	2738.1	2738.1	2692.3	2627.2	2600.5
25°	2634.9	2619.6	2577.5	2485.7	2416.9
27.5°	2516.3	2493.4	2447.5	2317.5	2237.2
30°	2386.3	2374.8	2309.8	2141.6	2080.4
32.5°	2263.9	2244.8	2176.0	2000.1	1950.4
35°	2137.7	2122.4	2019.2	1866.2	1820.3
37.5°	2011.5	1992.4	1862.4	1740.0	1682.7
40°	1885.3	1862.4	1720.9	1610.0	1548.8
42.5°	1766.8	1736.2	1598.5	1480.0	1411.1
45°	1640.6	1606.2	1468.5	1346.1	1292.6
47.5°	1514.4	1483.8	1357.6	1231.4	1170.2
50°	1380.5	1353.8	1239.0	1112.9	1047.8
52.5°	1269.6	1227.6	1116.7	990.5	936.9
55°	1139.6	1105.2	1001.9	883.4	837.5
57.5°	1021.1	986.7	891.0	780.1	741.9
60°	910.2	860.5	780.1	684.5	653.9
62.5°	787.8	749.5	680.7	600.4	638.6
65°	676.9	638.6	577.5	588.9	489.5
67.5°	554.5	535.4	481.9	428.3	413.0
70°	451.3	428.3	409.2	351.8	336.5
72.5°	359.5	336.5	309.8	279.2	267.7
75°	271.5	252.4	237.1	225.6	248.6
77.5°	187.4	179.7	168.3	156.8	153.0
80°	122.4	118.6	114.7	110.9	107.1
82.5°	72.7	72.7	72.7	72.7	72.7
85°	38.2	42.1	45.9	49.7	53.5
87.5°	22.9	22.9	26.8	30.6	34.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)