

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: P562709

Luminaire Tested: FSR-24-4-LD4-2LO-35-UNV-82-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562709  
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-35-UNV-82-86-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

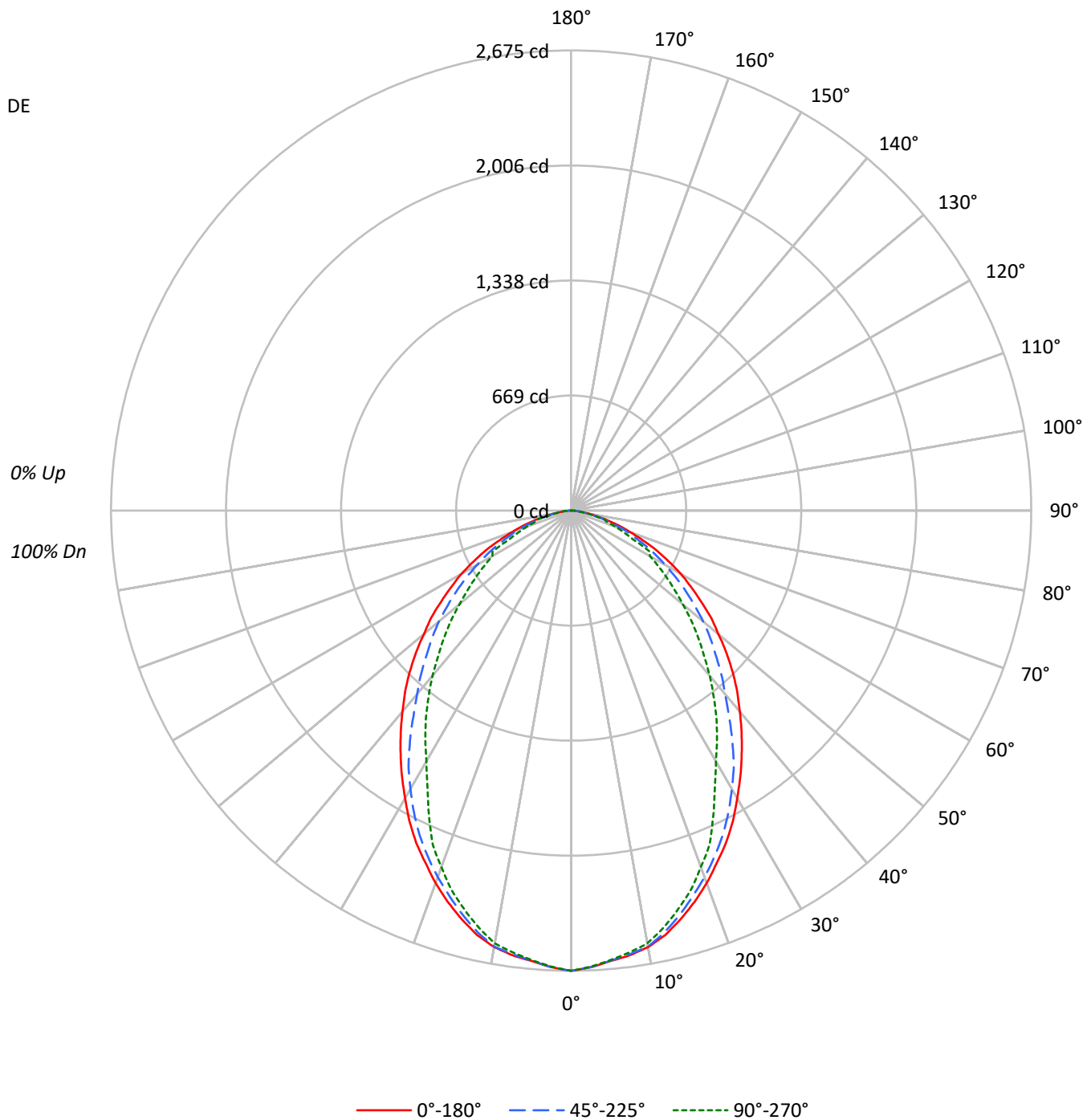
Lumens per Lamp: N/A  
Luminaire Lumens: 5252.0 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3600	3600	3600
5°	3551	3546	3542
10°	3520	3516	3490
15°	3425	3391	3343
20°	3299	3246	3157
25°	3164	3095	2902
30°	2998	2902	2614
35°	2840	2682	2418
40°	2678	2445	2200
45°	2525	2260	1989
50°	2337	2098	1774
55°	2162	1901	1589
60°	1981	1698	1423
65°	1743	1487	1260
70°	1436	1302	1071
75°	1142	997	1045
80°	767	719	671
85°	477	573	668

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2525 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	249.0	4.7
10°-20°	683.5	13.0
20°-30°	946.2	18.0
30°-40°	1008.9	19.2
40°-50°	920.4	17.5
50°-60°	721.1	13.7
60°-70°	470.0	8.9
70°-80°	208.2	4.0
80°-90°	44.7	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°	1878.7	35.8
0°-40°	2887.6	55.0
0°-60°	4529.1	86.2
0°-90°	5252.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5252.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2675	2675	2675	2675	2675	
5°	2629	2626	2626	2623	2623	250
15°	2459	2459	2434	2409	2400	691
25°	2131	2119	2085	2010	1955	978
35°	1729	1716	1633	1509	1472	1081
45°	1327	1299	1188	1089	1045	1022
55°	922	894	810	714	677	827
65°	547	516	467	476	396	539
75°	220	204	192	182	201	235
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2675.3	2675.3	2675.3	2675.3	2675.3
2.5°	2656.7	2656.7	2656.7	2653.6	2653.6
5°	2628.9	2625.8	2625.8	2622.7	2622.7
7.5°	2607.3	2604.2	2601.1	2598.0	2591.8
10°	2576.3	2576.3	2573.2	2557.8	2554.7
12.5°	2526.8	2523.7	2511.4	2489.7	2483.5
15°	2458.8	2458.8	2434.1	2409.3	2400.0
17.5°	2384.6	2381.5	2350.6	2325.8	2313.4
20°	2304.2	2298.0	2267.0	2226.8	2205.2
22.5°	2214.5	2214.5	2177.4	2124.8	2103.1
25°	2131.0	2118.6	2084.6	2010.3	1954.7
27.5°	2035.1	2016.5	1979.4	1874.3	1809.3
30°	1929.9	1920.6	1868.1	1732.0	1682.5
32.5°	1831.0	1815.5	1759.8	1617.6	1577.3
35°	1728.9	1716.5	1633.0	1509.3	1472.2
37.5°	1626.8	1611.4	1506.2	1407.2	1360.8
40°	1524.8	1506.2	1391.8	1302.1	1252.6
42.5°	1428.9	1404.1	1292.8	1196.9	1141.3
45°	1326.8	1299.0	1187.6	1088.7	1045.4
47.5°	1224.8	1200.0	1098.0	995.9	946.4
50°	1116.5	1094.9	1002.1	900.0	847.4
52.5°	1026.8	992.8	903.1	801.0	757.7
55°	921.7	893.8	810.3	714.4	677.3
57.5°	825.8	798.0	720.6	630.9	600.0
60°	736.1	695.9	630.9	553.6	528.9
62.5°	637.1	606.2	550.5	485.6	516.5
65°	547.4	516.5	467.0	476.3	395.9
67.5°	448.5	433.0	389.7	346.4	334.0
70°	365.0	346.4	330.9	284.5	272.2
72.5°	290.7	272.2	250.5	225.8	216.5
75°	219.6	204.1	191.8	182.5	201.0
77.5°	151.5	145.4	136.1	126.8	123.7
80°	99.0	95.9	92.8	89.7	86.6
82.5°	58.8	58.8	58.8	58.8	58.8
85°	30.9	34.0	37.1	40.2	43.3
87.5°	18.6	18.6	21.6	24.7	27.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)