

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: P590497

Luminaire Tested: FSR-24-2-LD4-3HI-50-UNV-81-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590497  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-3HI-50-UNV-81-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

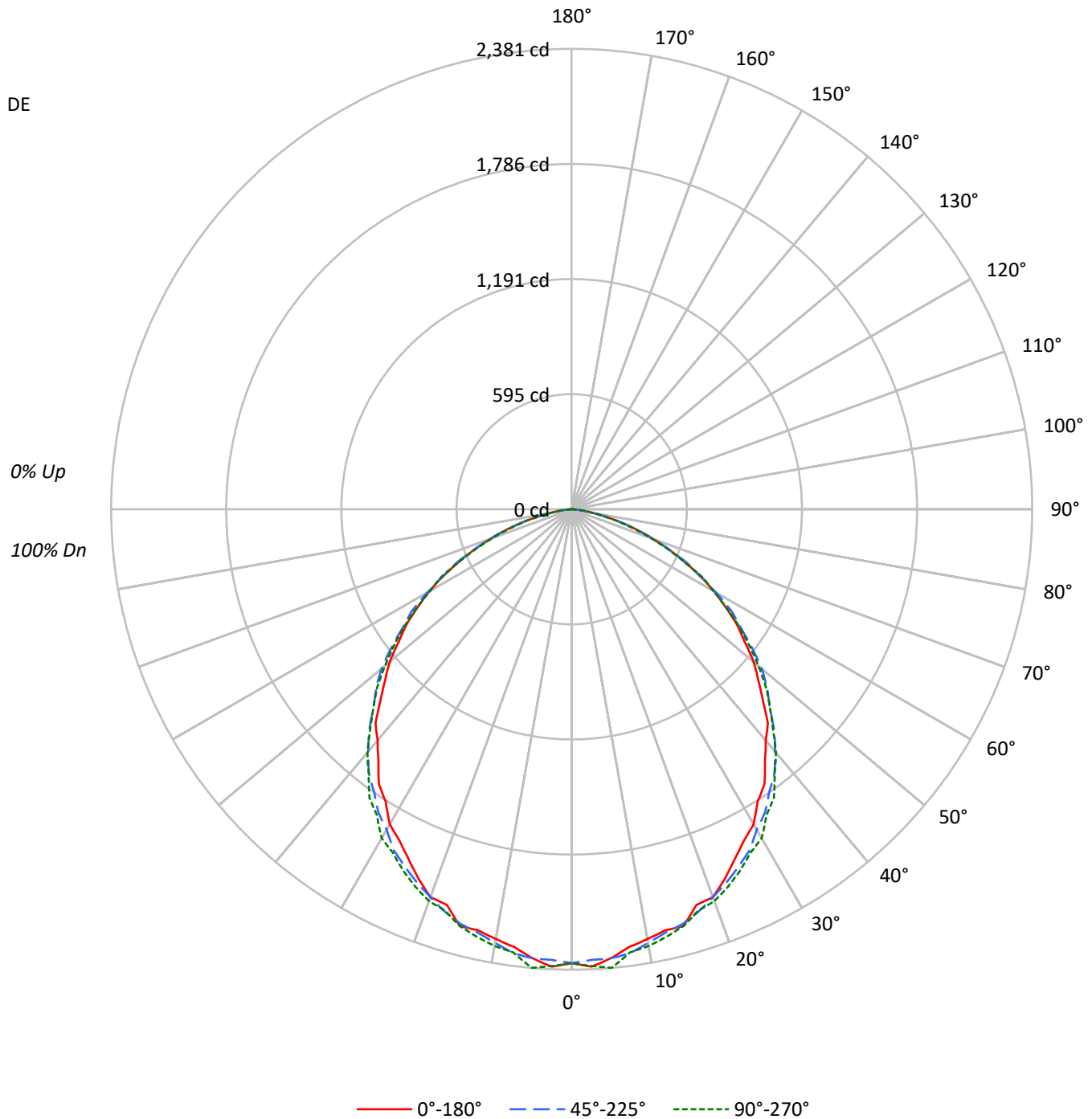
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5916.0 lumens  
Efficiency: N/A  
Efficacy: 91.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	6317	6317	6317
5°	6296	6298	6431
10°	6168	6222	6266
15°	6217	6183	6218
20°	6112	6112	6177
25°	5924	6054	6120
30°	5843	5945	6103
35°	5705	5854	5986
40°	5483	5747	5773
45°	5317	5506	5514
50°	5143	5375	5272
55°	4900	4995	4959
60°	4582	4627	4545
65°	4085	4190	4057
70°	3505	3517	3419
75°	2776	2770	2663
80°	1860	1808	1737
85°	1010	1000	936

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5648 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.8	3.7
10°-20°	625.8	10.6
20°-30°	937.5	15.8
30°-40°	1111.2	18.8
40°-50°	1113.2	18.8
50°-60°	944.9	16.0
60°-70°	637.1	10.8
70°-80°	279.9	4.7
80°-90°	45.5	0.8
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°	1784.1	30.2
0°-40°	2895.3	48.9
0°-60°	4953.5	83.7
0°-90°	5916.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5916.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2347	2347	2347	2347	2347	
5°	2331	2325	2332	2325	2381	220
15°	2232	2206	2219	2231	2232	622
25°	1995	2006	2039	2066	2061	922
35°	1737	1742	1782	1823	1822	1078
45°	1397	1423	1447	1484	1449	1081
55°	1044	1037	1065	1057	1057	929
65°	642	633	658	633	637	638
75°	267	262	266	248	256	286
85°	33	32	32	32	30	47
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2347.3	2347.3	2347.3	2347.3	2347.3
2.5°	2367.6	2349.7	2333.1	2352.5	2364.3
5°	2330.7	2325.2	2331.6	2324.6	2380.7
7.5°	2282.8	2303.7	2315.8	2308.2	2311.6
10°	2257.3	2250.0	2277.0	2295.8	2293.1
12.5°	2230.0	2240.9	2242.5	2262.8	2264.6
15°	2231.5	2205.8	2219.4	2230.9	2231.8
17.5°	2144.9	2172.7	2182.1	2208.5	2175.8
20°	2134.3	2114.0	2134.3	2161.2	2157.0
22.5°	2069.1	2046.4	2090.0	2114.0	2112.4
25°	1995.1	2006.1	2038.8	2065.5	2061.2
27.5°	1930.3	1943.0	1989.7	2026.4	2002.7
30°	1880.3	1873.9	1913.3	1946.0	1964.2
32.5°	1790.9	1813.9	1860.0	1892.4	1875.1
35°	1736.6	1741.8	1782.1	1823.3	1822.1
37.5°	1641.8	1665.7	1722.4	1733.9	1723.3
40°	1560.8	1584.8	1636.0	1648.4	1643.3
42.5°	1501.1	1505.4	1549.3	1563.6	1540.8
45°	1397.2	1423.2	1446.9	1484.2	1449.0
47.5°	1308.7	1320.8	1371.7	1381.7	1363.2
50°	1228.4	1232.6	1283.8	1271.4	1259.3
52.5°	1127.4	1145.3	1174.1	1171.7	1157.4
55°	1044.4	1037.4	1064.7	1057.4	1057.1
57.5°	944.7	956.8	979.2	967.7	949.2
60°	851.3	851.6	859.8	846.8	844.4
62.5°	747.4	751.0	752.8	736.8	762.8
65°	641.6	633.1	658.0	632.8	637.1
67.5°	544.3	548.6	546.1	530.4	536.4
70°	445.5	451.0	447.0	429.2	434.6
72.5°	355.2	348.5	352.8	330.4	340.7
75°	267.0	261.6	266.4	247.6	256.1
77.5°	181.8	186.1	183.1	173.1	178.8
80°	120.0	116.7	116.7	110.9	112.1
82.5°	70.0	66.7	65.8	63.9	66.7
85°	32.7	31.8	32.4	31.5	30.3
87.5°	11.8	12.1	12.1	11.5	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)