

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: P590460

Luminaire Tested: FSR-24-2-LD4-3HI-40-UNV-80-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590460  
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-40-UNV-80-97-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

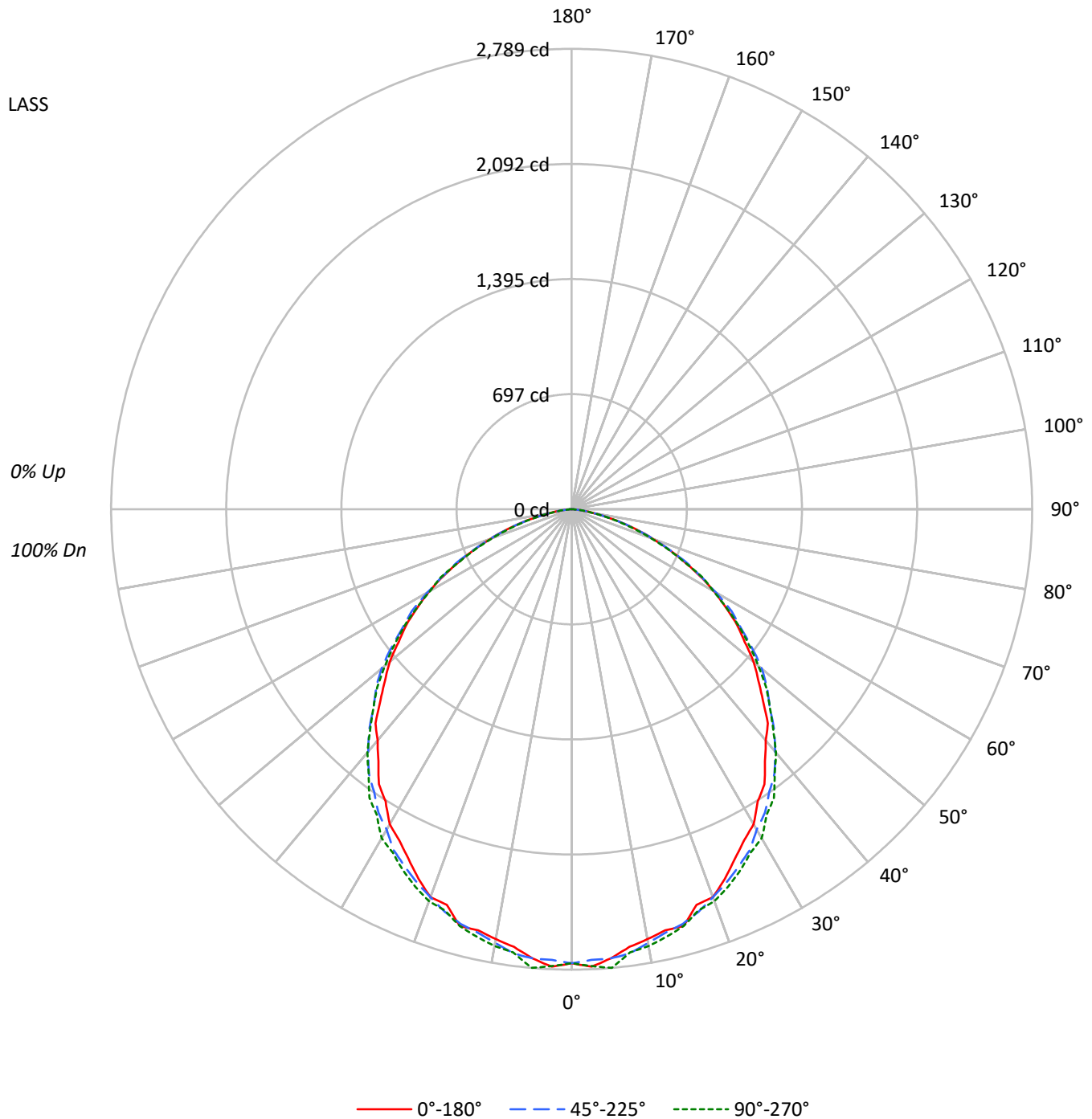
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6930.0 lumens  
Efficiency: N/A  
Efficacy: 106.9 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°	7399	7399	7399
5°	7375	7378	7533
10°	7225	7288	7340
15°	7282	7243	7283
20°	7159	7159	7236
25°	6939	7091	7169
30°	6844	6964	7150
35°	6683	6858	7012
40°	6423	6732	6762
45°	6229	6450	6460
50°	6024	6296	6175
55°	5740	5851	5810
60°	5367	5421	5323
65°	4786	4908	4752
70°	4106	4120	4006
75°	3252	3245	3119
80°	2179	2118	2036
85°	1183	1173	1096

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6616 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	258.6	3.7
10°-20°	733.0	10.6
20°-30°	1098.2	15.8
30°-40°	1301.6	18.8
40°-50°	1304.0	18.8
50°-60°	1106.9	16.0
60°-70°	746.3	10.8
70°-80°	327.9	4.7
80°-90°	53.3	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°	2089.9	30.2
0°-40°	3391.6	48.9
0°-60°	5802.5	83.7
0°-90°	6930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6930.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2750	2750	2750	2750	2750	
5°	2730	2724	2731	2723	2789	257
15°	2614	2584	2600	2613	2614	728
25°	2337	2350	2388	2420	2414	1080
35°	2034	2040	2088	2136	2134	1263
45°	1637	1667	1695	1738	1697	1266
55°	1223	1215	1247	1239	1238	1088
65°	752	742	771	741	746	747
75°	313	306	312	290	300	335
85°	38	37	38	37	36	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2749.6	2749.6	2749.6	2749.6	2749.6
2.5°	2773.4	2752.5	2733.0	2755.7	2769.5
5°	2730.1	2723.7	2731.2	2723.0	2788.7
7.5°	2674.0	2698.5	2712.7	2703.9	2707.8
10°	2644.2	2635.7	2667.3	2689.3	2686.1
12.5°	2612.3	2625.0	2626.8	2650.6	2652.7
15°	2614.0	2583.9	2599.8	2613.3	2614.4
17.5°	2512.5	2545.2	2556.2	2587.0	2548.7
20°	2500.1	2476.3	2500.1	2531.7	2526.7
22.5°	2423.7	2397.1	2448.2	2476.3	2474.5
25°	2337.1	2349.9	2388.2	2419.5	2414.5
27.5°	2261.1	2276.0	2330.7	2373.7	2346.0
30°	2202.6	2195.1	2241.3	2279.6	2300.9
32.5°	2097.8	2124.8	2178.8	2216.8	2196.5
35°	2034.3	2040.3	2087.5	2135.8	2134.4
37.5°	1923.2	1951.2	2017.6	2031.1	2018.7
40°	1828.4	1856.4	1916.4	1931.0	1924.9
42.5°	1758.4	1763.4	1814.9	1831.6	1804.9
45°	1636.7	1667.2	1694.9	1738.5	1697.4
47.5°	1533.0	1547.2	1606.8	1618.5	1596.9
50°	1438.9	1443.9	1503.9	1489.3	1475.1
52.5°	1320.7	1341.6	1375.4	1372.5	1355.8
55°	1223.4	1215.2	1247.2	1238.7	1238.3
57.5°	1106.6	1120.8	1147.1	1133.6	1111.9
60°	997.3	997.6	1007.2	991.9	989.1
62.5°	875.5	879.7	881.9	863.1	893.6
65°	751.6	741.6	770.8	741.3	746.3
67.5°	637.6	642.6	639.8	621.3	628.4
70°	521.9	528.3	523.7	502.7	509.1
72.5°	416.1	408.3	413.2	387.0	399.0
75°	312.8	306.4	312.1	290.1	300.0
77.5°	213.0	218.0	214.4	202.7	209.5
80°	140.6	136.7	136.7	129.9	131.4
82.5°	82.0	78.1	77.0	74.9	78.1
85°	38.3	37.3	38.0	36.9	35.5
87.5°	13.8	14.2	14.2	13.5	12.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)