

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: P590683

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-80-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590683  
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-LD4-3STD-50-UNV-80-96-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

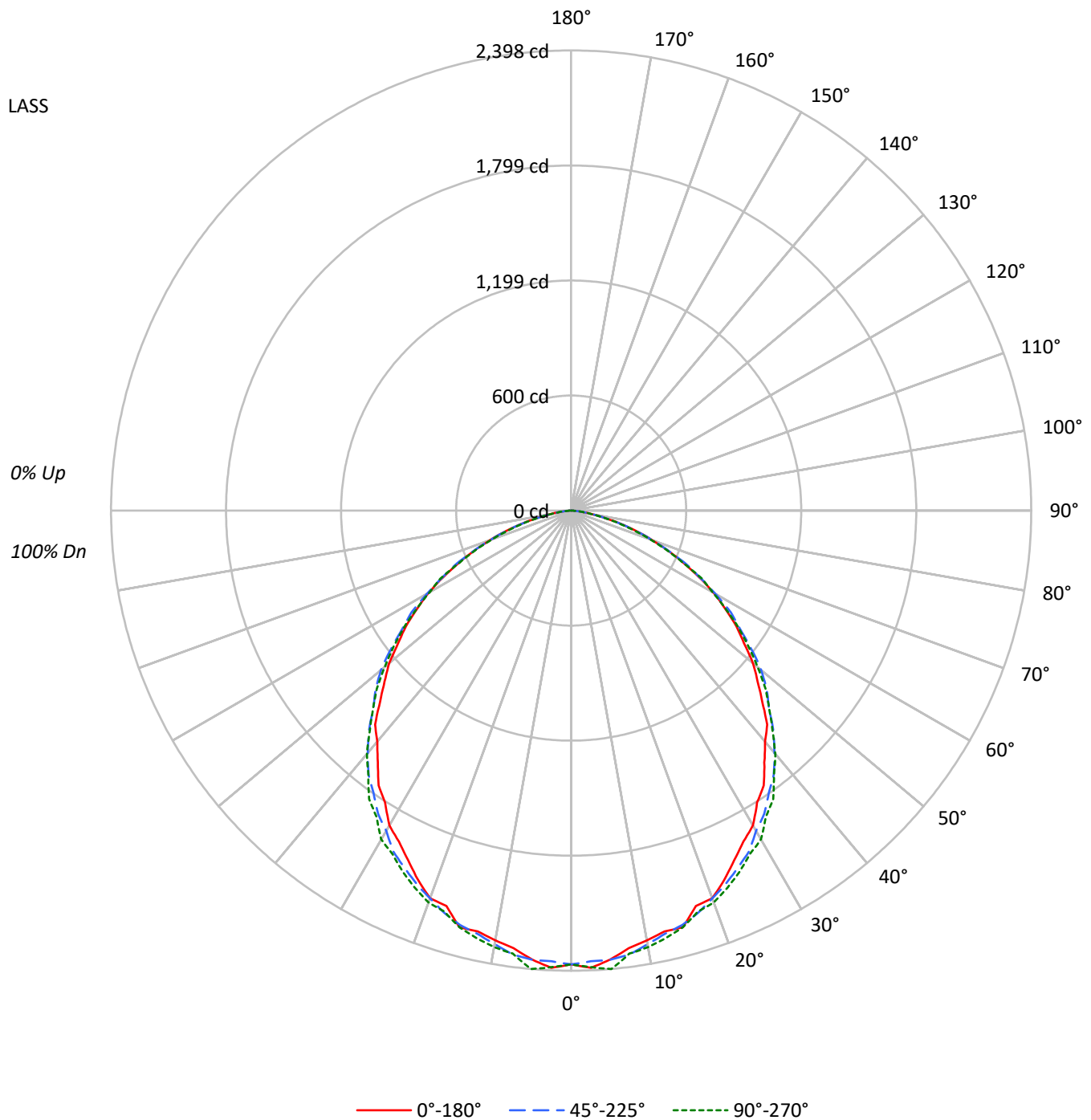
Lumens per Lamp: N/A  
Luminaire Lumens: 5960.0 lumens  
Efficiency: N/A  
Efficacy: 119.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	6364	6364	6364
5°	6343	6345	6479
10°	6214	6268	6312
15°	6263	6229	6264
20°	6157	6157	6223
25°	5968	6099	6165
30°	5886	5989	6149
35°	5747	5898	6030
40°	5524	5790	5815
45°	5357	5547	5555
50°	5181	5415	5311
55°	4936	5032	4997
60°	4616	4662	4578
65°	4116	4221	4087
70°	3531	3544	3445
75°	2797	2791	2682
80°	1874	1822	1751
85°	1019	1010	942

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5690 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	222.4	3.7
10°-20°	630.4	10.6
20°-30°	944.5	15.8
30°-40°	1119.4	18.8
40°-50°	1121.5	18.8
50°-60°	952.0	16.0
60°-70°	641.8	10.8
70°-80°	282.0	4.7
80°-90°	45.8	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°	1797.4	30.2
0°-40°	2916.8	48.9
0°-60°	4990.3	83.7
0°-90°	5960.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5960.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2365	2365	2365	2365	2365	
5°	2348	2342	2349	2342	2398	221
15°	2248	2222	2236	2248	2248	626
25°	2010	2021	2054	2081	2076	929
35°	1750	1755	1795	1837	1836	1086
45°	1408	1434	1458	1495	1460	1089
55°	1052	1045	1073	1065	1065	936
65°	646	638	663	638	642	643
75°	269	264	268	250	258	288
85°	33	32	33	32	30	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2364.8	2364.8	2364.8	2364.8	2364.8
2.5°	2385.2	2367.2	2350.4	2370.0	2381.9
5°	2348.0	2342.5	2348.9	2341.9	2398.4
7.5°	2299.7	2320.8	2333.0	2325.4	2328.7
10°	2274.1	2266.8	2293.9	2312.9	2310.1
12.5°	2246.6	2257.6	2259.1	2279.6	2281.4
15°	2248.1	2222.2	2235.9	2247.5	2248.4
17.5°	2160.8	2188.9	2198.4	2224.9	2192.0
20°	2150.1	2129.7	2150.1	2177.3	2173.0
22.5°	2084.5	2061.6	2105.6	2129.7	2128.1
25°	2010.0	2021.0	2054.0	2080.8	2076.5
27.5°	1944.6	1957.5	2004.5	2041.4	2017.6
30°	1894.3	1887.9	1927.5	1960.5	1978.8
32.5°	1804.2	1827.4	1873.8	1906.5	1889.1
35°	1749.5	1754.7	1795.3	1836.9	1835.6
37.5°	1654.0	1678.1	1735.2	1746.8	1736.1
40°	1572.4	1596.6	1648.2	1660.7	1655.5
42.5°	1512.3	1516.6	1560.8	1575.2	1552.3
45°	1407.6	1433.8	1457.6	1495.2	1459.8
47.5°	1318.4	1330.6	1381.9	1392.0	1373.4
50°	1237.5	1241.8	1293.4	1280.9	1268.6
52.5°	1135.8	1153.8	1182.8	1180.4	1166.1
55°	1052.2	1045.1	1072.6	1065.3	1065.0
57.5°	951.7	963.9	986.5	974.9	956.3
60°	857.7	858.0	866.2	853.1	850.6
62.5°	752.9	756.6	758.4	742.3	768.5
65°	646.4	637.8	662.9	637.5	641.8
67.5°	548.4	552.6	550.2	534.3	540.4
70°	448.8	454.3	450.4	432.3	437.8
72.5°	357.8	351.1	355.4	332.8	343.2
75°	269.0	263.5	268.4	249.5	258.0
77.5°	183.2	187.5	184.4	174.3	180.1
80°	120.9	117.6	117.6	111.8	113.0
82.5°	70.5	67.2	66.3	64.4	67.2
85°	33.0	32.1	32.7	31.8	30.5
87.5°	11.9	12.2	12.2	11.6	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)