

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: P561852

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561852  
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-12-4-LD4-2STD-50-UNV-80-96-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

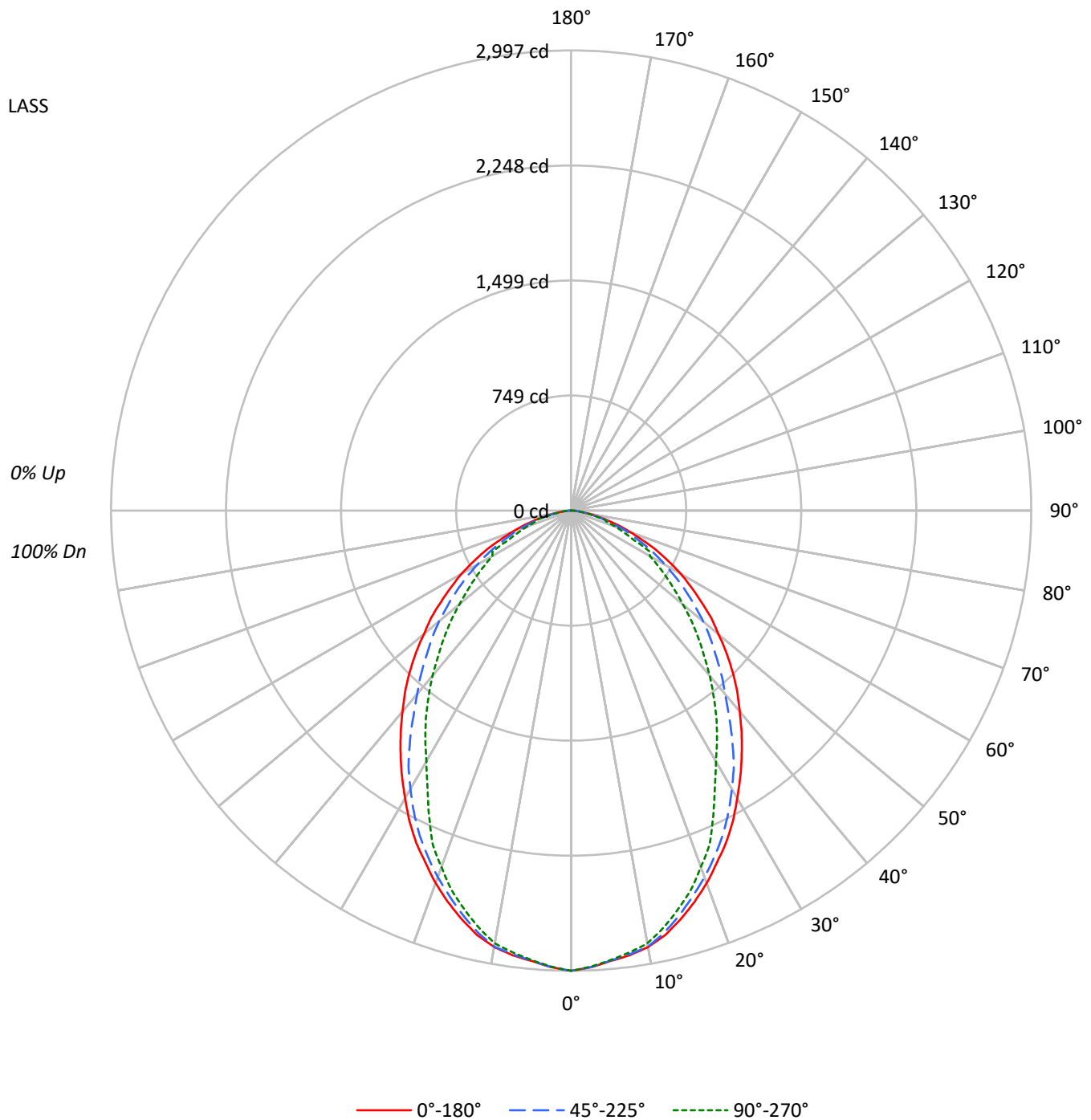
Lumens per Lamp: N/A  
Luminaire Lumens: 5884.0 lumens  
Efficiency: N/A  
Efficacy: 88.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	8065	8065	8065
5°	7956	7947	7937
10°	7887	7877	7821
15°	7674	7597	7491
20°	7392	7273	7075
25°	7089	6934	6502
30°	6719	6503	5857
35°	6363	6010	5418
40°	6001	5478	4930
45°	5657	5064	4457
50°	5237	4700	3975
55°	4845	4259	3560
60°	4439	3805	3189
65°	3905	3331	2824
70°	3217	2917	2399
75°	2558	2233	2341
80°	1719	1612	1503
85°	1071	1284	1497

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5657 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	279.0	4.7
10°-20°	765.7	13.0
20°-30°	1060.1	18.0
30°-40°	1130.3	19.2
40°-50°	1031.2	17.5
50°-60°	807.9	13.7
60°-70°	526.5	8.9
70°-80°	233.3	4.0
80°-90°	50.1	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°	2104.8	35.8
0°-40°	3235.1	55.0
0°-60°	5074.1	86.2
0°-90°	5884.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5884.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2997	2997	2997	2997	2997	
5°	2945	2942	2942	2938	2938	280
15°	2755	2755	2727	2699	2689	774
25°	2387	2374	2335	2252	2190	1096
35°	1937	1923	1830	1691	1649	1211
45°	1486	1455	1331	1220	1171	1145
55°	1033	1001	908	800	759	926
65°	613	579	523	534	444	604
75°	246	229	215	204	225	264
85°	35	38	42	45	48	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2997.2	2997.2	2997.2	2997.2	2997.2
2.5°	2976.4	2976.4	2976.4	2973.0	2973.0
5°	2945.3	2941.8	2941.8	2938.3	2938.3
7.5°	2921.0	2917.5	2914.1	2910.6	2903.7
10°	2886.4	2886.4	2882.9	2865.6	2862.1
12.5°	2830.9	2827.4	2813.6	2789.3	2782.4
15°	2754.7	2754.7	2727.0	2699.2	2688.8
17.5°	2671.5	2668.1	2633.4	2605.7	2591.8
20°	2581.4	2574.5	2539.9	2494.8	2470.5
22.5°	2480.9	2480.9	2439.4	2380.5	2356.2
25°	2387.4	2373.5	2335.4	2252.3	2189.9
27.5°	2280.0	2259.2	2217.6	2099.8	2027.0
30°	2162.2	2151.8	2092.9	1940.4	1885.0
32.5°	2051.3	2034.0	1971.6	1812.2	1767.2
35°	1936.9	1923.1	1829.5	1690.9	1649.3
37.5°	1822.6	1805.3	1687.5	1576.6	1524.6
40°	1708.2	1687.5	1559.3	1458.8	1403.3
42.5°	1600.8	1573.1	1448.4	1341.0	1278.6
45°	1486.5	1455.3	1330.6	1219.7	1171.2
47.5°	1372.1	1344.4	1230.1	1115.7	1060.3
50°	1250.9	1226.6	1122.7	1008.3	949.4
52.5°	1150.4	1112.3	1011.8	897.4	848.9
55°	1032.6	1001.4	907.8	800.4	758.8
57.5°	925.2	894.0	807.3	706.9	672.2
60°	824.7	779.6	706.9	620.2	592.5
62.5°	713.8	679.1	616.8	544.0	578.7
65°	613.3	578.7	523.2	533.6	443.5
67.5°	502.4	485.1	436.6	388.1	374.2
70°	408.9	388.1	370.8	318.8	304.9
72.5°	325.7	304.9	280.7	252.9	242.6
75°	246.0	228.7	214.8	204.4	225.2
77.5°	169.8	162.9	152.5	142.1	138.6
80°	110.9	107.4	104.0	100.5	97.0
82.5°	65.8	65.8	65.8	65.8	65.8
85°	34.7	38.1	41.6	45.0	48.5
87.5°	20.8	20.8	24.3	27.7	31.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)