

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: P561655

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561655  
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-LD4-2LO-50-UNV-80-87-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

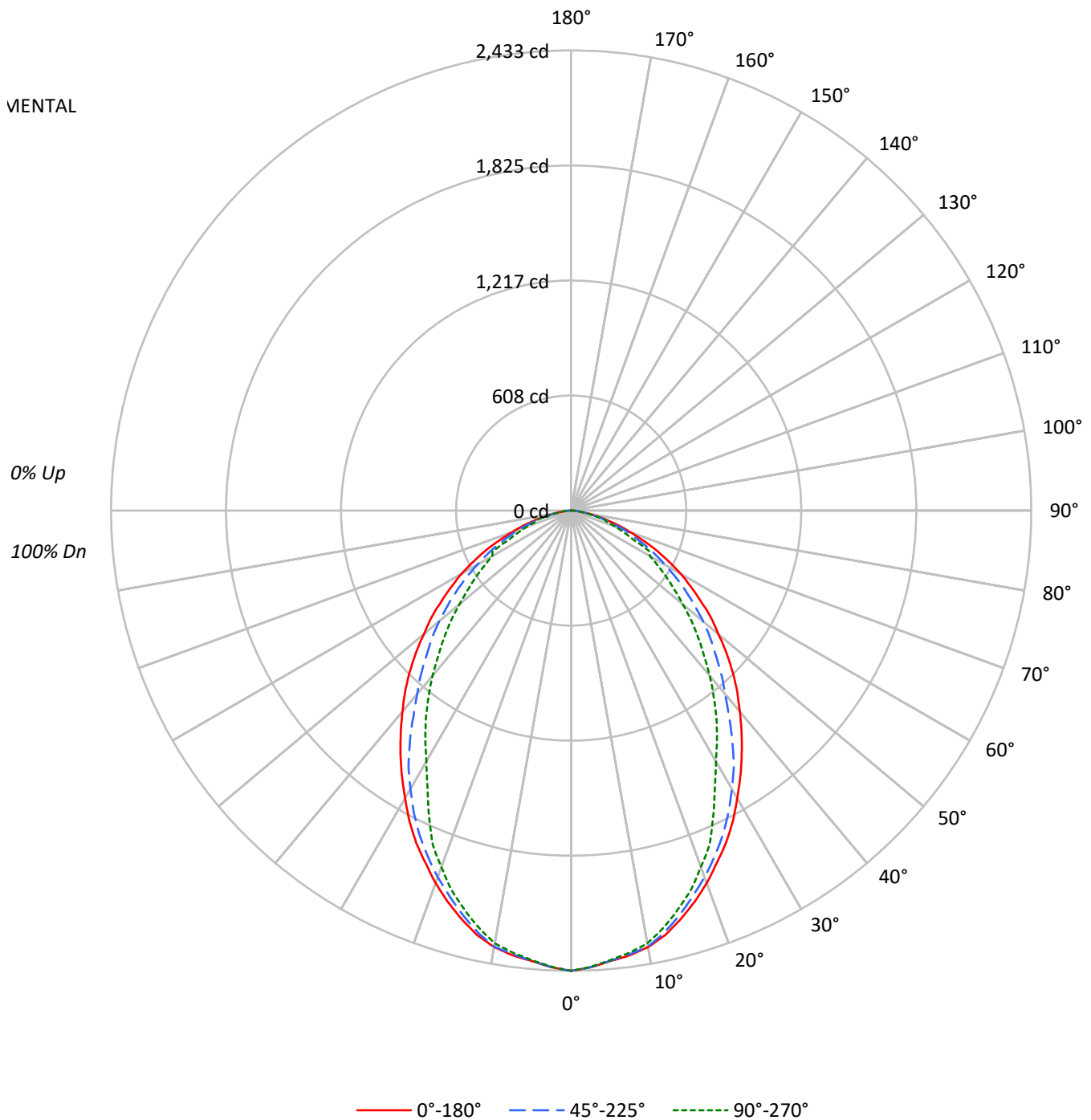
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4777.0 lumens  
Efficiency: N/A  
Efficacy: 102.1 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): 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	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°	6548	6548	6548
5°	6459	6451	6444
10°	6403	6395	6349
15°	6230	6168	6082
20°	6002	5905	5744
25°	5755	5630	5279
30°	5455	5280	4755
35°	5166	4879	4399
40°	4872	4447	4002
45°	4593	4111	3618
50°	4251	3816	3227
55°	3933	3458	2890
60°	3603	3089	2589
65°	3170	2705	2293
70°	2611	2368	1948
75°	2076	1813	1902
80°	1395	1308	1221
85°	868	1044	1216

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4593 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	226.5	4.7
10°-20°	621.6	13.0
20°-30°	860.6	18.0
30°-40°	917.7	19.2
40°-50°	837.2	17.5
50°-60°	655.9	13.7
60°-70°	427.5	8.9
70°-80°	189.4	4.0
80°-90°	40.7	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°	1708.8	35.8
0°-40°	2626.4	55.0
0°-60°	4119.5	86.2
0°-90°	4777.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4777.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2433	2433	2433	2433	2433	
5°	2391	2388	2388	2386	2386	227
15°	2236	2236	2214	2191	2183	629
25°	1938	1927	1896	1828	1778	890
35°	1572	1561	1485	1373	1339	983
45°	1207	1182	1080	990	951	930
55°	838	813	737	650	616	752
65°	498	470	425	433	360	491
75°	200	186	174	166	183	214
85°	28	31	34	37	39	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2433.3	2433.3	2433.3	2433.3	2433.3
2.5°	2416.5	2416.5	2416.5	2413.6	2413.6
5°	2391.1	2388.3	2388.3	2385.5	2385.5
7.5°	2371.5	2368.6	2365.8	2363.0	2357.4
10°	2343.3	2343.3	2340.5	2326.4	2323.6
12.5°	2298.3	2295.5	2284.2	2264.6	2258.9
15°	2236.4	2236.4	2213.9	2191.4	2183.0
17.5°	2168.9	2166.1	2138.0	2115.5	2104.2
20°	2095.8	2090.1	2062.0	2025.4	2005.7
22.5°	2014.2	2014.2	1980.4	1932.6	1912.9
25°	1938.2	1927.0	1896.0	1828.5	1777.9
27.5°	1851.0	1834.1	1800.4	1704.7	1645.7
30°	1755.4	1746.9	1699.1	1575.3	1530.3
32.5°	1665.4	1651.3	1600.7	1471.3	1434.7
35°	1572.5	1561.3	1485.3	1372.8	1339.0
37.5°	1479.7	1465.6	1370.0	1280.0	1237.8
40°	1386.9	1370.0	1265.9	1184.3	1139.3
42.5°	1299.7	1277.2	1175.9	1088.7	1038.0
45°	1206.8	1181.5	1080.2	990.2	950.8
47.5°	1114.0	1091.5	998.7	905.8	860.8
50°	1015.5	995.8	911.4	818.6	770.8
52.5°	934.0	903.0	821.4	728.6	689.2
55°	838.3	813.0	737.0	649.8	616.1
57.5°	751.1	725.8	655.5	573.9	545.7
60°	669.5	632.9	573.9	503.5	481.0
62.5°	579.5	551.4	500.7	441.7	469.8
65°	497.9	469.8	424.8	433.2	360.1
67.5°	407.9	393.8	354.5	315.1	303.8
70°	331.9	315.1	301.0	258.8	247.6
72.5°	264.4	247.6	227.9	205.4	196.9
75°	199.7	185.7	174.4	166.0	182.9
77.5°	137.8	132.2	123.8	115.3	112.5
80°	90.0	87.2	84.4	81.6	78.8
82.5°	53.4	53.4	53.4	53.4	53.4
85°	28.1	30.9	33.8	36.6	39.4
87.5°	16.9	16.9	19.7	22.5	25.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)