

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: P561587

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561587  
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-40-UNV-80-85-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

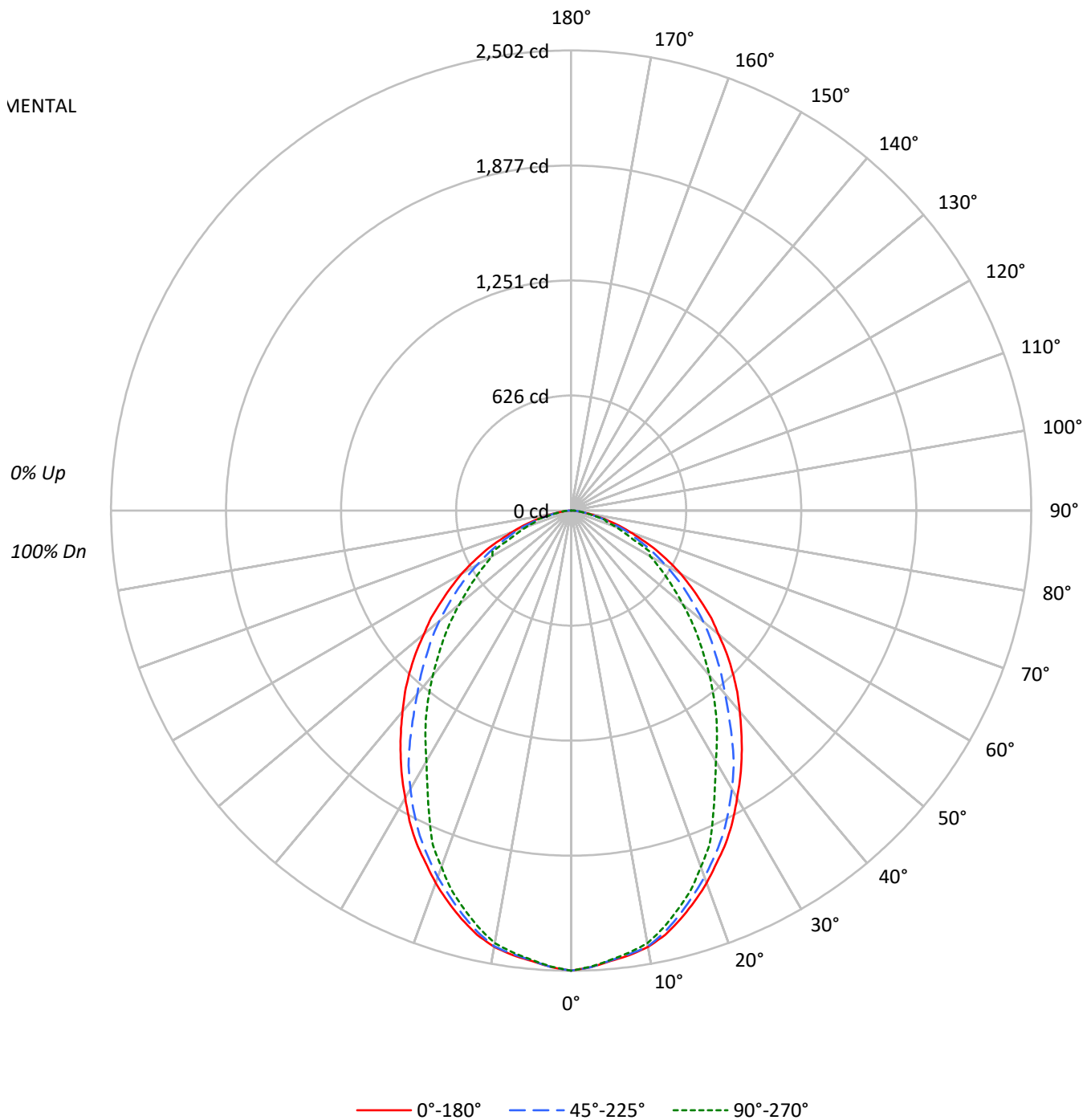
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4911.0 lumens  
Efficiency: N/A  
Efficacy: 104.9 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	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												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

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

	0°	45°	90°
0°	6732	6732	6732
5°	6640	6632	6625
10°	6583	6575	6527
15°	6405	6341	6252
20°	6170	6071	5905
25°	5916	5787	5427
30°	5607	5428	4889
35°	5311	5016	4522
40°	5009	4572	4115
45°	4722	4226	3720
50°	4371	3923	3317
55°	4043	3555	2972
60°	3704	3175	2661
65°	3259	2781	2357
70°	2685	2434	2002
75°	2135	1864	1955
80°	1433	1345	1255
85°	892	1071	1250

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4722 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	232.9	4.7
10°-20°	639.1	13.0
20°-30°	884.8	18.0
30°-40°	943.4	19.2
40°-50°	860.7	17.5
50°-60°	674.3	13.7
60°-70°	439.5	8.9
70°-80°	194.7	4.0
80°-90°	41.8	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°	1756.7	35.8
0°-40°	2700.1	55.0
0°-60°	4235.1	86.2
0°-90°	4911.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4911.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2502	2502	2502	2502	2502	
5°	2458	2455	2455	2452	2452	233
15°	2299	2299	2276	2253	2244	646
25°	1993	1981	1949	1880	1828	915
35°	1617	1605	1527	1411	1377	1011
45°	1241	1215	1110	1018	978	956
55°	862	836	758	668	633	773
65°	512	483	437	445	370	504
75°	205	191	179	171	188	220
85°	29	32	35	38	40	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2501.6	2501.6	2501.6	2501.6	2501.6
2.5°	2484.2	2484.2	2484.2	2481.4	2481.4
5°	2458.2	2455.3	2455.3	2452.4	2452.4
7.5°	2438.0	2435.1	2432.2	2429.3	2423.5
10°	2409.1	2409.1	2406.2	2391.7	2388.8
12.5°	2362.8	2359.9	2348.3	2328.1	2322.3
15°	2299.2	2299.2	2276.0	2252.9	2244.2
17.5°	2229.7	2226.9	2197.9	2174.8	2163.2
20°	2154.6	2148.8	2119.9	2082.3	2062.0
22.5°	2070.7	2070.7	2036.0	1986.8	1966.6
25°	1992.6	1981.0	1949.2	1879.8	1827.8
27.5°	1902.9	1885.6	1850.9	1752.6	1691.8
30°	1804.6	1795.9	1746.8	1619.5	1573.3
32.5°	1712.1	1697.6	1645.6	1512.5	1474.9
35°	1616.6	1605.1	1527.0	1411.3	1376.6
37.5°	1521.2	1506.7	1408.4	1315.9	1272.5
40°	1425.8	1408.4	1301.4	1217.5	1171.3
42.5°	1336.1	1313.0	1208.9	1119.2	1067.2
45°	1240.7	1214.6	1110.5	1018.0	977.5
47.5°	1145.2	1122.1	1026.7	931.2	885.0
50°	1044.0	1023.8	937.0	841.6	792.4
52.5°	960.2	928.3	844.5	749.0	708.5
55°	861.8	835.8	757.7	668.1	633.4
57.5°	772.2	746.1	673.8	590.0	561.1
60°	688.3	650.7	590.0	517.7	494.5
62.5°	595.8	566.8	514.8	454.0	483.0
65°	511.9	483.0	436.7	445.4	370.2
67.5°	419.3	404.9	364.4	323.9	312.3
70°	341.3	323.9	309.4	266.1	254.5
72.5°	271.8	254.5	234.3	211.1	202.4
75°	205.3	190.9	179.3	170.6	188.0
77.5°	141.7	135.9	127.2	118.6	115.7
80°	92.5	89.7	86.8	83.9	81.0
82.5°	54.9	54.9	54.9	54.9	54.9
85°	28.9	31.8	34.7	37.6	40.5
87.5°	17.4	17.4	20.2	23.1	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)