

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: P561522

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561522  
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-35-UNV-80-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

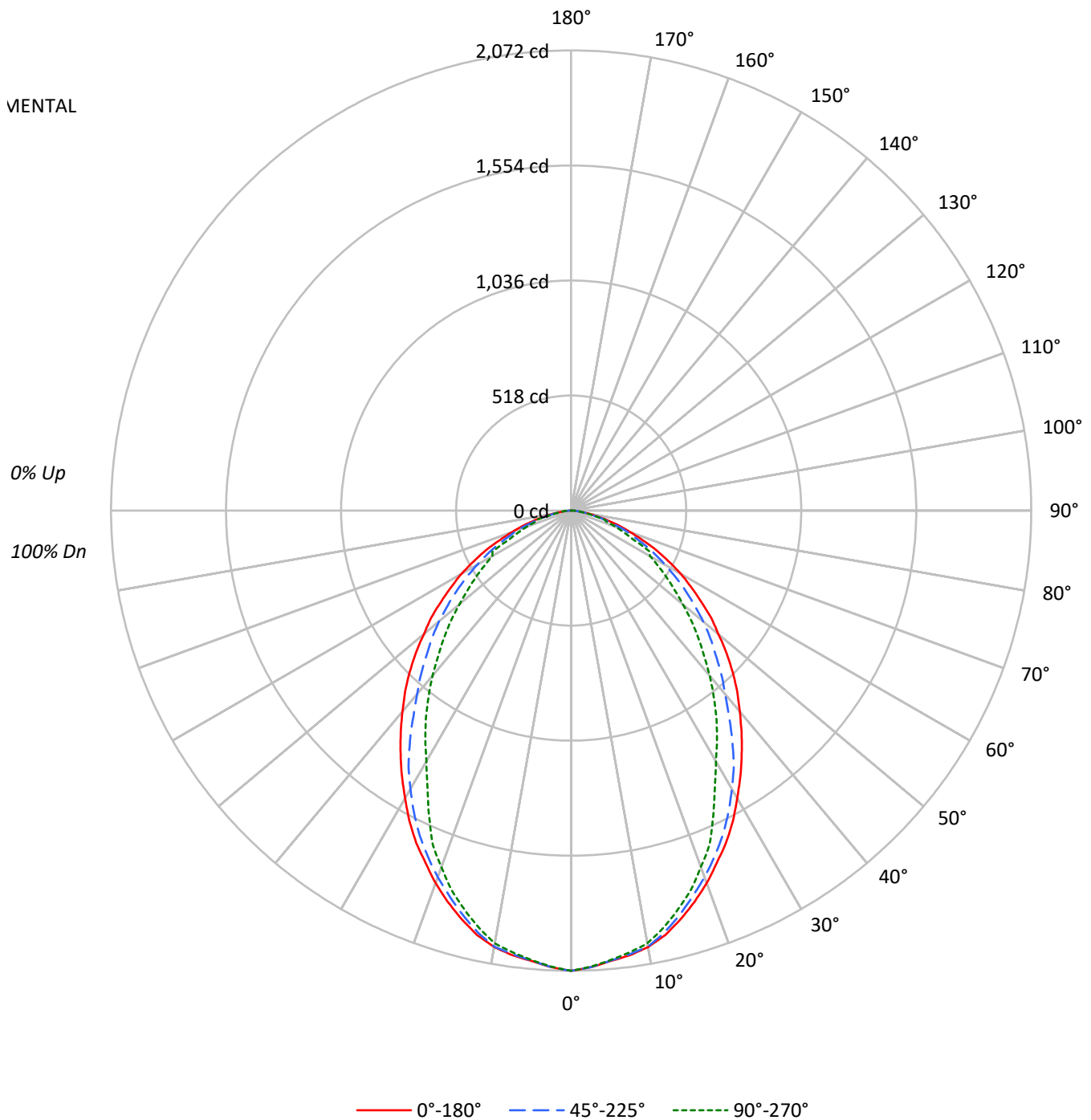
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4068.0 lumens  
Efficiency: N/A  
Efficacy: 86.9 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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	5576	5576	5576
5°	5501	5494	5488
10°	5453	5446	5407
15°	5306	5252	5179
20°	5111	5029	4891
25°	4901	4794	4495
30°	4645	4496	4049
35°	4399	4155	3746
40°	4149	3787	3408
45°	3911	3501	3081
50°	3620	3249	2748
55°	3349	2944	2461
60°	3069	2630	2204
65°	2700	2303	1952
70°	2224	2017	1659
75°	1769	1544	1619
80°	1189	1114	1040
85°	741	886	1034

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3911 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	192.9	4.7
10°-20°	529.4	13.0
20°-30°	732.9	18.0
30°-40°	781.5	19.2
40°-50°	712.9	17.5
50°-60°	558.5	13.7
60°-70°	364.0	8.9
70°-80°	161.3	4.0
80°-90°	34.6	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°	1455.2	35.8
0°-40°	2236.6	55.0
0°-60°	3508.1	86.2
0°-90°	4068.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4068.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2072	2072	2072	2072	2072	
5°	2036	2034	2034	2032	2032	193
15°	1904	1904	1885	1866	1859	535
25°	1651	1641	1615	1557	1514	758
35°	1339	1330	1265	1169	1140	837
45°	1028	1006	920	843	810	792
55°	714	692	628	553	525	640
65°	424	400	362	369	307	418
75°	170	158	148	141	156	182
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2072.2	2072.2	2072.2	2072.2	2072.2
2.5°	2057.8	2057.8	2057.8	2055.4	2055.4
5°	2036.3	2033.9	2033.9	2031.5	2031.5
7.5°	2019.5	2017.1	2014.7	2012.3	2007.5
10°	1995.5	1995.5	1993.1	1981.2	1978.8
12.5°	1957.2	1954.8	1945.2	1928.4	1923.7
15°	1904.5	1904.5	1885.3	1866.2	1859.0
17.5°	1847.0	1844.6	1820.6	1801.5	1791.9
20°	1784.7	1779.9	1756.0	1724.8	1708.1
22.5°	1715.2	1715.2	1686.5	1645.8	1629.0
25°	1650.6	1641.0	1614.6	1557.1	1514.0
27.5°	1576.3	1561.9	1533.2	1451.7	1401.4
30°	1494.8	1487.7	1446.9	1341.5	1303.2
32.5°	1418.2	1406.2	1363.1	1252.9	1221.8
35°	1339.1	1329.6	1264.9	1169.0	1140.3
37.5°	1260.1	1248.1	1166.7	1090.0	1054.1
40°	1181.0	1166.7	1078.0	1008.5	970.2
42.5°	1106.8	1087.6	1001.4	927.1	884.0
45°	1027.7	1006.1	919.9	843.2	809.7
47.5°	948.7	929.5	850.4	771.4	733.1
50°	864.8	848.0	776.2	697.1	656.4
52.5°	795.3	769.0	699.5	620.5	586.9
55°	713.9	692.3	627.6	553.4	524.6
57.5°	639.6	618.1	558.2	488.7	464.7
60°	570.2	539.0	488.7	428.8	409.6
62.5°	493.5	469.5	426.4	376.1	400.1
65°	424.0	400.1	361.7	368.9	306.6
67.5°	347.4	335.4	301.8	268.3	258.7
70°	282.7	268.3	256.3	220.4	210.8
72.5°	225.2	210.8	194.0	174.9	167.7
75°	170.1	158.1	148.5	141.3	155.7
77.5°	117.4	112.6	105.4	98.2	95.8
80°	76.7	74.3	71.9	69.5	67.1
82.5°	45.5	45.5	45.5	45.5	45.5
85°	24.0	26.4	28.7	31.1	33.5
87.5°	14.4	14.4	16.8	19.2	21.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)