

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: P560761

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560761  
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-LD4-1HI-35-UNV-80-88-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

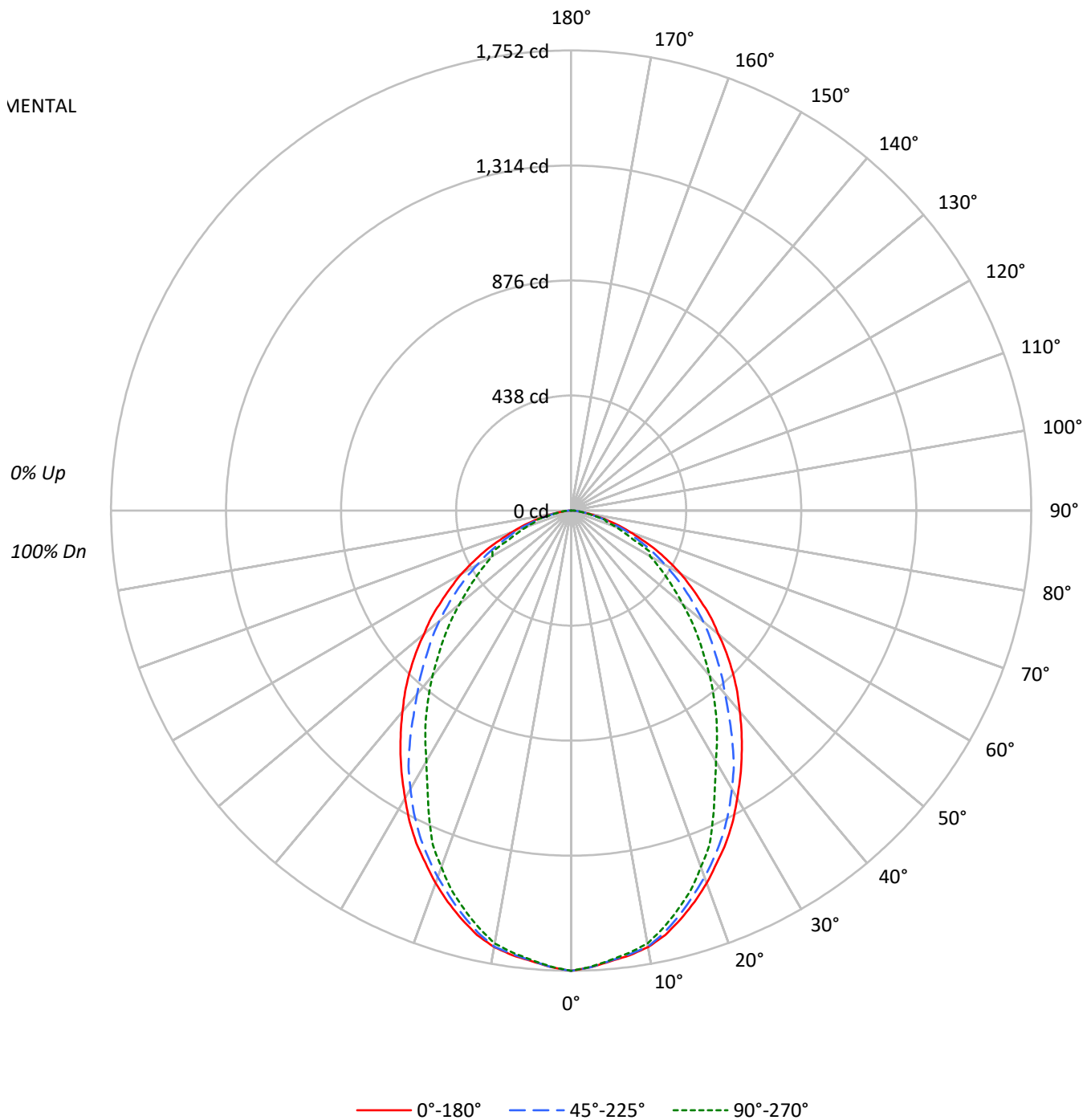
Lumens per Lamp: N/A  
Luminaire Lumens: 3440.0 lumens  
Efficiency: N/A  
Efficacy: 79.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4715	4715	4715
5°	4651	4646	4640
10°	4611	4605	4572
15°	4487	4442	4379
20°	4322	4252	4136
25°	4144	4054	3801
30°	3928	3802	3424
35°	3720	3514	3168
40°	3508	3202	2882
45°	3307	2960	2606
50°	3062	2748	2324
55°	2832	2490	2081
60°	2595	2224	1864
65°	2283	1948	1651
70°	1880	1706	1403
75°	1495	1306	1369
80°	1004	942	879
85°	627	750	877

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3307 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.1	4.7
10°-20°	447.7	13.0
20°-30°	619.8	18.0
30°-40°	660.8	19.2
40°-50°	602.9	17.5
50°-60°	472.3	13.7
60°-70°	307.8	8.9
70°-80°	136.4	4.0
80°-90°	29.3	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
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0°-30°	1230.5	35.8
0°-40°	1891.3	55.0
0°-60°	2966.5	86.2
0°-90°	3440.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3440.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1752	1752	1752	1752	1752	
5°	1722	1720	1720	1718	1718	163
15°	1610	1610	1594	1578	1572	453
25°	1396	1388	1365	1317	1280	641
35°	1132	1124	1070	989	964	708
45°	869	851	778	713	685	669
55°	604	585	531	468	444	541
65°	359	338	306	312	259	353
75°	144	134	126	120	132	154
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1752.3	1752.3	1752.3	1752.3	1752.3
2.5°	1740.1	1740.1	1740.1	1738.1	1738.1
5°	1721.9	1719.9	1719.9	1717.9	1717.9
7.5°	1707.7	1705.7	1703.7	1701.6	1697.6
10°	1687.5	1687.5	1685.4	1675.3	1673.3
12.5°	1655.1	1653.0	1644.9	1630.7	1626.7
15°	1610.5	1610.5	1594.3	1578.1	1572.0
17.5°	1561.9	1559.8	1539.6	1523.4	1515.3
20°	1509.2	1505.1	1484.9	1458.6	1444.4
22.5°	1450.5	1450.5	1426.1	1391.7	1377.5
25°	1395.8	1387.7	1365.4	1316.7	1280.3
27.5°	1333.0	1320.8	1296.5	1227.6	1185.1
30°	1264.1	1258.0	1223.6	1134.4	1102.0
32.5°	1199.3	1189.1	1152.7	1059.5	1033.1
35°	1132.4	1124.3	1069.6	988.6	964.3
37.5°	1065.6	1055.4	986.5	921.7	891.3
40°	998.7	986.5	911.6	852.8	820.4
42.5°	935.9	919.7	846.8	784.0	747.5
45°	869.1	850.8	777.9	713.1	684.7
47.5°	802.2	786.0	719.1	652.3	619.9
50°	731.3	717.1	656.3	589.5	555.1
52.5°	672.6	650.3	591.5	524.7	496.3
55°	603.7	585.4	530.8	468.0	443.6
57.5°	540.9	522.6	472.0	413.3	393.0
60°	482.1	455.8	413.3	362.6	346.4
62.5°	417.3	397.1	360.6	318.0	338.3
65°	358.6	338.3	305.9	312.0	259.3
67.5°	293.7	283.6	255.2	226.9	218.8
70°	239.0	226.9	216.8	186.4	178.3
72.5°	190.4	178.3	164.1	147.9	141.8
75°	143.8	133.7	125.6	119.5	131.7
77.5°	99.3	95.2	89.1	83.1	81.0
80°	64.8	62.8	60.8	58.7	56.7
82.5°	38.5	38.5	38.5	38.5	38.5
85°	20.3	22.3	24.3	26.3	28.4
87.5°	12.2	12.2	14.2	16.2	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)