

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: P562350

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562350  
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-24-4-LD4-1STD-35-UNV-93-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

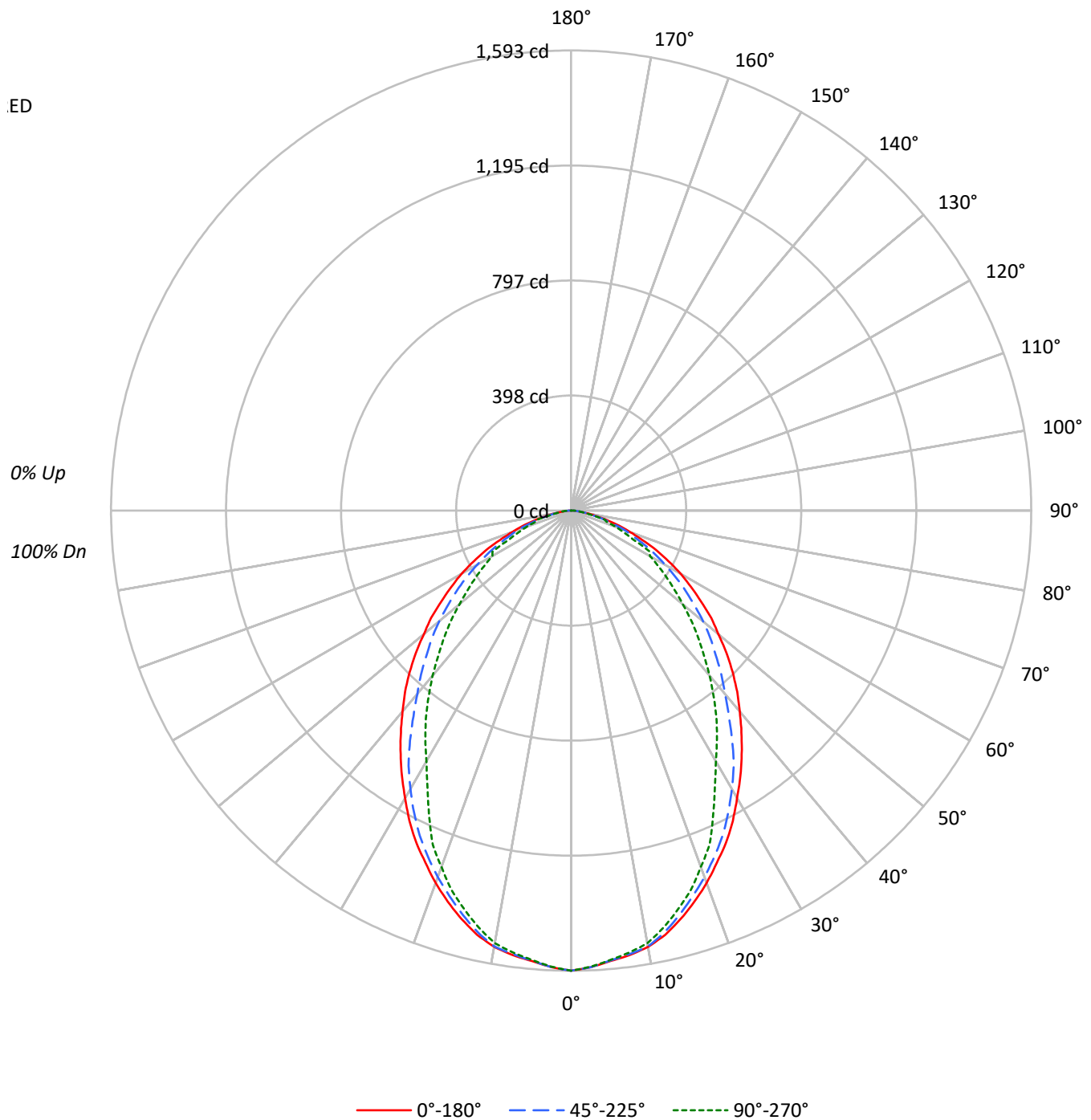
Lumens per Lamp: N/A  
Luminaire Lumens: 3127.0 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	2143	2143	2143
5°	2114	2112	2109
10°	2096	2093	2078
15°	2039	2019	1991
20°	1964	1933	1880
25°	1884	1843	1728
30°	1785	1728	1556
35°	1691	1597	1440
40°	1594	1456	1310
45°	1503	1345	1184
50°	1392	1249	1056
55°	1287	1132	946
60°	1179	1011	847
65°	1038	885	750
70°	855	775	637
75°	679	594	622
80°	456	428	400
85°	284	341	398

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1503 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.3	4.7
10°-20°	406.9	13.0
20°-30°	563.4	18.0
30°-40°	600.7	19.2
40°-50°	548.0	17.5
50°-60°	429.3	13.7
60°-70°	279.8	8.9
70°-80°	124.0	4.0
80°-90°	26.6	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°	1118.6	35.8
0°-40°	1719.3	55.0
0°-60°	2696.6	86.2
0°-90°	3127.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3127.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1593	1593	1593	1593	1593	
5°	1565	1563	1563	1562	1562	149
15°	1464	1464	1449	1434	1429	412
25°	1269	1261	1241	1197	1164	582
35°	1029	1022	972	899	876	644
45°	790	773	707	648	622	609
55°	549	532	482	425	403	492
65°	326	308	278	284	236	321
75°	131	122	114	109	120	140
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1592.9	1592.9	1592.9	1592.9	1592.9
2.5°	1581.8	1581.8	1581.8	1580.0	1580.0
5°	1565.2	1563.4	1563.4	1561.5	1561.5
7.5°	1552.3	1550.5	1548.7	1546.8	1543.1
10°	1533.9	1533.9	1532.1	1522.9	1521.0
12.5°	1504.5	1502.6	1495.3	1482.4	1478.7
15°	1464.0	1464.0	1449.2	1434.5	1429.0
17.5°	1419.8	1417.9	1399.5	1384.8	1377.4
20°	1371.9	1368.2	1349.8	1325.8	1313.0
22.5°	1318.5	1318.5	1296.4	1265.1	1252.2
25°	1268.8	1261.4	1241.1	1196.9	1163.8
27.5°	1211.7	1200.6	1178.5	1115.9	1077.2
30°	1149.1	1143.5	1112.2	1031.2	1001.7
32.5°	1090.1	1080.9	1047.8	963.1	939.1
35°	1029.4	1022.0	972.3	898.6	876.5
37.5°	968.6	959.4	896.8	837.9	810.2
40°	907.8	896.8	828.7	775.2	745.8
42.5°	850.7	836.0	769.7	712.6	679.5
45°	790.0	773.4	707.1	648.2	622.4
47.5°	729.2	714.5	653.7	592.9	563.5
50°	664.8	651.9	596.6	535.9	504.6
52.5°	611.4	591.1	537.7	476.9	451.2
55°	548.8	532.2	482.5	425.4	403.3
57.5°	491.7	475.1	429.1	375.7	357.2
60°	438.3	414.3	375.7	329.6	314.9
62.5°	379.3	360.9	327.8	289.1	307.5
65°	325.9	307.5	278.1	283.6	235.7
67.5°	267.0	257.8	232.0	206.2	198.9
70°	217.3	206.2	197.0	169.4	162.0
72.5°	173.1	162.0	149.2	134.4	128.9
75°	130.7	121.5	114.2	108.6	119.7
77.5°	90.2	86.5	81.0	75.5	73.7
80°	58.9	57.1	55.2	53.4	51.6
82.5°	35.0	35.0	35.0	35.0	35.0
85°	18.4	20.3	22.1	23.9	25.8
87.5°	11.0	11.0	12.9	14.7	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)