

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: P560356

Luminaire Tested: FSR-12-2-LD4-2HI-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560356  
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-12-2-LD4-2HI-50-UNV-93-86-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

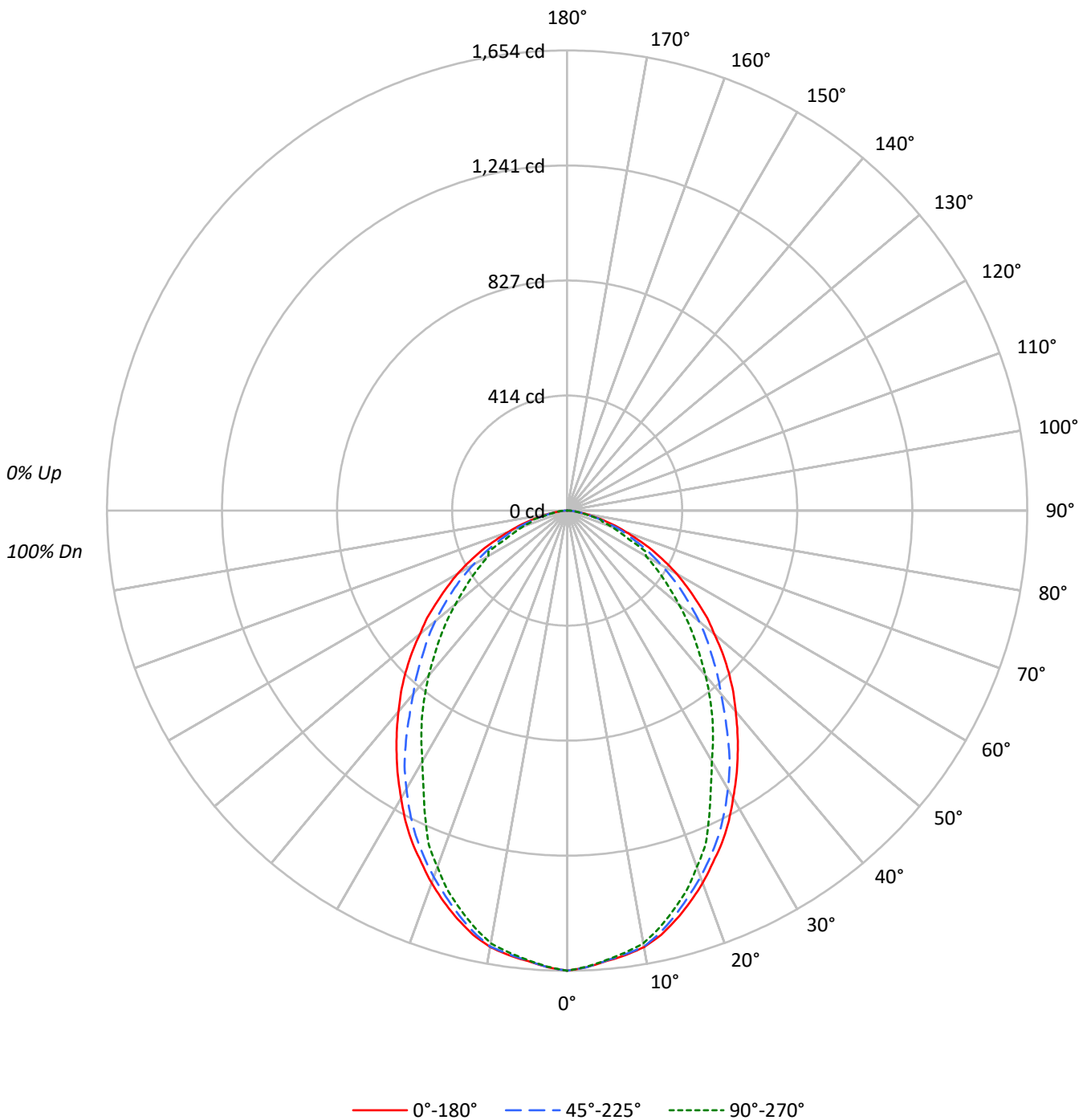
Lumens per Lamp: N/A  
Luminaire Lumens: 3247.0 lumens  
Efficiency: N/A  
Efficacy: 75.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8902	8902	8902
5°	8781	8770	8760
10°	8705	8694	8631
15°	8470	8384	8267
20°	8159	8027	7808
25°	7823	7653	7176
30°	7415	7177	6464
35°	7023	6633	5980
40°	6623	6046	5441
45°	6243	5589	4919
50°	5780	5187	4387
55°	5347	4701	3930
60°	4899	4199	3520
65°	4309	3677	3117
70°	3550	3220	2648
75°	2824	2466	2585
80°	1897	1779	1658
85°	1179	1414	1655

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6243 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.0	4.7
10°-20°	422.5	13.0
20°-30°	585.0	18.0
30°-40°	623.8	19.2
40°-50°	569.1	17.5
50°-60°	445.8	13.7
60°-70°	290.6	8.9
70°-80°	128.7	4.0
80°-90°	27.6	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°	1161.5	35.8
0°-40°	1785.2	55.0
0°-60°	2800.1	86.2
0°-90°	3247.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3247.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1654	1654	1654	1654	1654	
5°	1625	1623	1623	1622	1622	154
15°	1520	1520	1505	1490	1484	427
25°	1317	1310	1289	1243	1208	605
35°	1069	1061	1010	933	910	668
45°	820	803	734	673	646	632
55°	570	553	501	442	419	511
65°	338	319	289	294	245	334
75°	136	126	119	113	124	146
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1654.0	1654.0	1654.0	1654.0	1654.0
2.5°	1642.5	1642.5	1642.5	1640.6	1640.6
5°	1625.3	1623.4	1623.4	1621.5	1621.5
7.5°	1611.9	1610.0	1608.1	1606.2	1602.4
10°	1592.8	1592.8	1590.9	1581.3	1579.4
12.5°	1562.2	1560.3	1552.6	1539.3	1535.4
15°	1520.1	1520.1	1504.8	1489.5	1483.8
17.5°	1474.2	1472.3	1453.2	1437.9	1430.3
20°	1424.5	1420.7	1401.6	1376.7	1363.3
22.5°	1369.1	1369.1	1346.1	1313.6	1300.2
25°	1317.4	1309.8	1288.8	1242.9	1208.5
27.5°	1258.2	1246.7	1223.8	1158.7	1118.6
30°	1193.2	1187.4	1154.9	1070.8	1040.2
32.5°	1132.0	1122.4	1088.0	1000.0	975.2
35°	1068.9	1061.2	1009.6	933.1	910.2
37.5°	1005.8	996.2	931.2	870.0	841.3
40°	942.7	931.2	860.5	805.0	774.4
42.5°	883.4	868.1	799.3	740.0	705.6
45°	820.3	803.1	734.3	673.1	646.3
47.5°	757.2	741.9	678.8	615.7	585.1
50°	690.3	676.9	619.5	556.4	523.9
52.5°	634.8	613.8	558.3	495.2	468.5
55°	569.8	552.6	501.0	441.7	418.8
57.5°	510.5	493.3	445.5	390.1	371.0
60°	455.1	430.2	390.1	342.3	327.0
62.5°	393.9	374.8	340.4	300.2	319.3
65°	338.4	319.3	288.7	294.5	244.8
67.5°	277.3	267.7	240.9	214.2	206.5
70°	225.6	214.2	204.6	175.9	168.3
72.5°	179.7	168.3	154.9	139.6	133.8
75°	135.8	126.2	118.6	112.8	124.3
77.5°	93.7	89.9	84.1	78.4	76.5
80°	61.2	59.3	57.4	55.5	53.5
82.5°	36.3	36.3	36.3	36.3	36.3
85°	19.1	21.0	22.9	24.9	26.8
87.5°	11.5	11.5	13.4	15.3	17.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)