

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: P560352

Luminaire Tested: FSR-12-2-LD4-2HI-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560352  
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-93-84-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

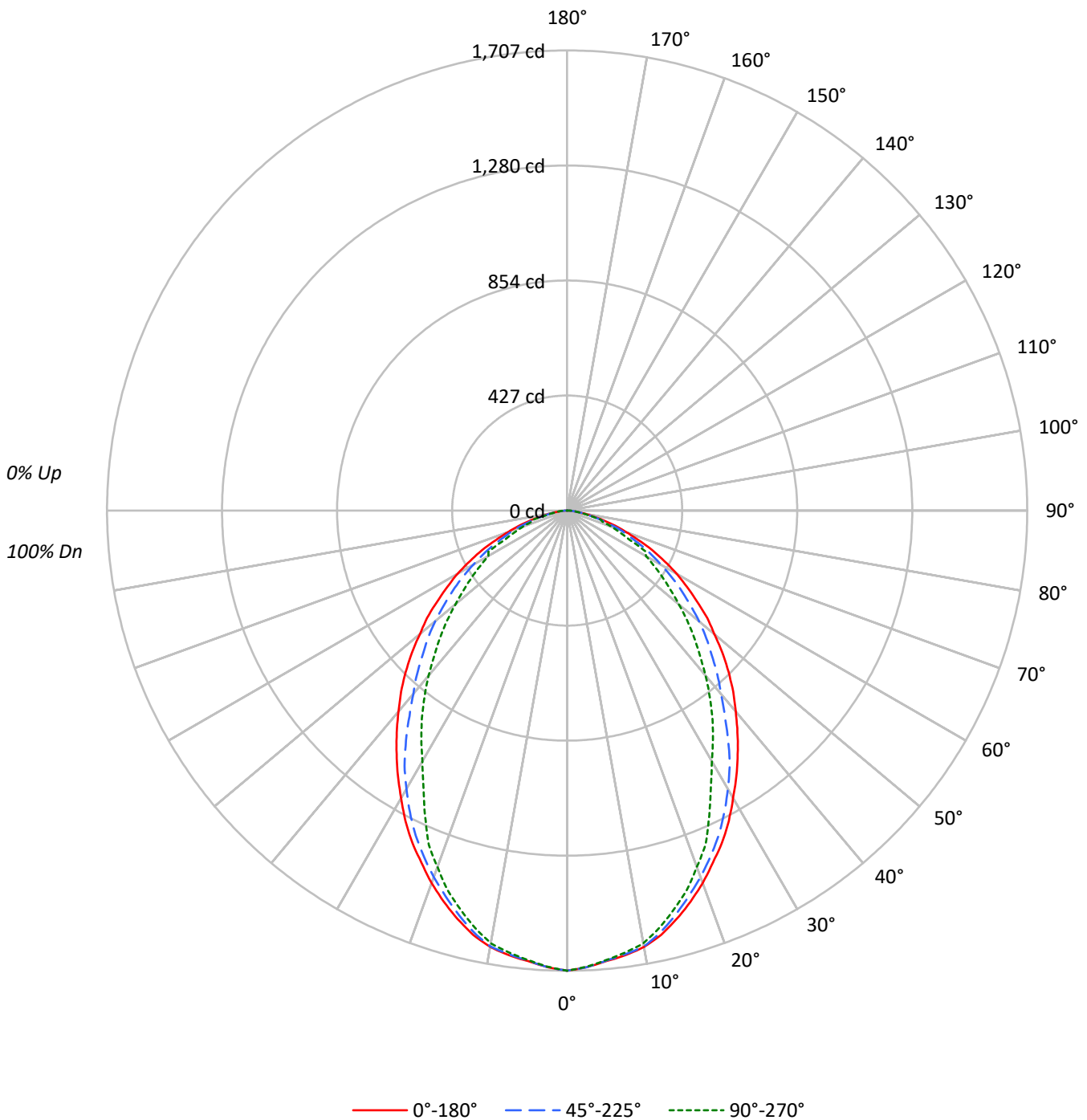
Lumens per Lamp: N/A  
Luminaire Lumens: 3351.0 lumens  
Efficiency: N/A  
Efficacy: 77.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9187	9187	9187
5°	9062	9051	9041
10°	8983	8972	8908
15°	8741	8653	8532
20°	8420	8285	8058
25°	8074	7898	7406
30°	7653	7407	6671
35°	7248	6845	6171
40°	6835	6239	5615
45°	6444	5768	5077
50°	5965	5354	4527
55°	5518	4851	4055
60°	5056	4334	3632
65°	4448	3795	3217
70°	3665	3322	2733
75°	2913	2543	2668
80°	1956	1835	1714
85°	1216	1463	1704

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6444 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.9	4.7
10°-20°	436.1	13.0
20°-30°	603.7	18.0
30°-40°	643.7	19.2
40°-50°	587.3	17.5
50°-60°	460.1	13.7
60°-70°	299.9	8.9
70°-80°	132.8	4.0
80°-90°	28.5	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°	1198.7	35.8
0°-40°	1842.4	55.0
0°-60°	2889.8	86.2
0°-90°	3351.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3351.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1707	1707	1707	1707	1707	
5°	1677	1675	1675	1673	1673	159
15°	1569	1569	1553	1537	1531	441
25°	1360	1352	1330	1283	1247	624
35°	1103	1095	1042	963	939	690
45°	847	829	758	695	667	652
55°	588	570	517	456	432	527
65°	349	330	298	304	253	344
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1707.0	1707.0	1707.0	1707.0	1707.0
2.5°	1695.1	1695.1	1695.1	1693.1	1693.1
5°	1677.4	1675.4	1675.4	1673.4	1673.4
7.5°	1663.5	1661.6	1659.6	1657.6	1653.7
10°	1643.8	1643.8	1641.8	1632.0	1630.0
12.5°	1612.2	1610.3	1602.4	1588.6	1584.6
15°	1568.8	1568.8	1553.0	1537.2	1531.3
17.5°	1521.5	1519.5	1499.8	1484.0	1476.1
20°	1470.2	1466.2	1446.5	1420.8	1407.0
22.5°	1412.9	1412.9	1389.2	1355.7	1341.9
25°	1359.6	1351.8	1330.0	1282.7	1247.2
27.5°	1298.5	1286.6	1262.9	1195.9	1154.4
30°	1231.4	1225.5	1191.9	1105.1	1073.5
32.5°	1168.2	1158.4	1122.8	1032.1	1006.4
35°	1103.1	1095.2	1041.9	963.0	939.3
37.5°	1038.0	1028.1	961.0	897.9	868.3
40°	972.9	961.0	888.0	830.8	799.2
42.5°	911.7	895.9	824.9	763.7	728.2
45°	846.6	828.8	757.8	694.6	667.0
47.5°	781.4	765.7	700.5	635.4	603.8
50°	712.4	698.6	639.4	574.2	540.7
52.5°	655.2	633.4	576.2	511.1	483.5
55°	588.1	570.3	517.0	455.8	432.2
57.5°	526.9	509.1	459.8	402.6	382.8
60°	469.7	444.0	402.6	353.2	337.4
62.5°	406.5	386.8	351.3	309.8	329.6
65°	349.3	329.6	298.0	303.9	252.6
67.5°	286.1	276.3	248.6	221.0	213.1
70°	232.9	221.0	211.1	181.5	173.7
72.5°	185.5	173.7	159.8	144.1	138.1
75°	140.1	130.2	122.3	116.4	128.3
77.5°	96.7	92.7	86.8	80.9	78.9
80°	63.1	61.2	59.2	57.2	55.3
82.5°	37.5	37.5	37.5	37.5	37.5
85°	19.7	21.7	23.7	25.7	27.6
87.5°	11.8	11.8	13.8	15.8	17.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)