

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: P560292

Luminaire Tested: FSR-12-2-LD4-2HI-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560292  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

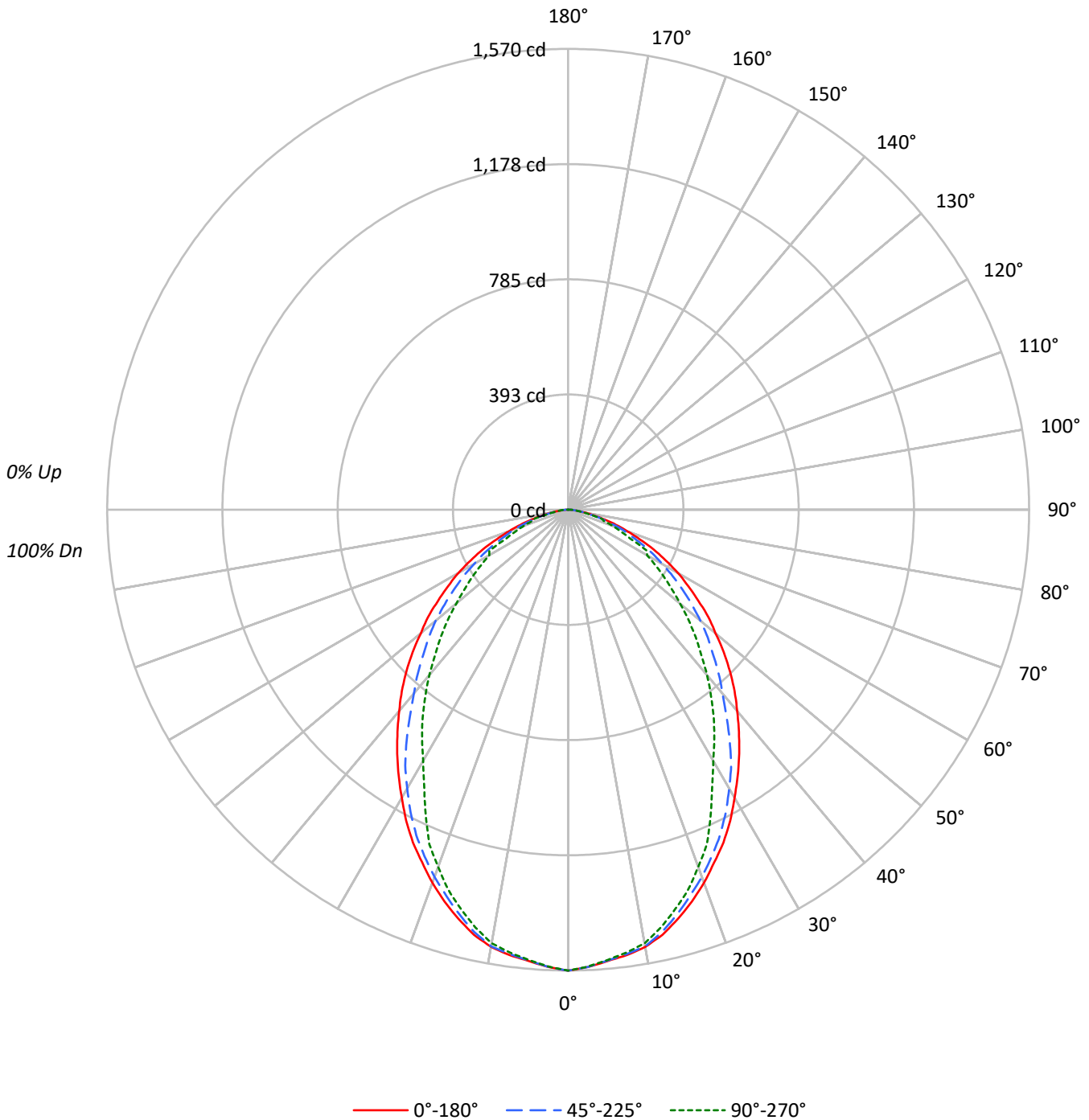
Lumens per Lamp: N/A  
Luminaire Lumens: 3083.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8452	8452	8452
5°	8337	8327	8318
10°	8265	8255	8195
15°	8042	7961	7850
20°	7747	7622	7414
25°	7428	7267	6814
30°	7040	6815	6138
35°	6668	6298	5678
40°	6289	5740	5166
45°	5928	5307	4671
50°	5488	4925	4165
55°	5076	4464	3731
60°	4651	3987	3342
65°	4092	3491	2960
70°	3371	3057	2515
75°	2680	2341	2454
80°	1801	1689	1574
85°	1124	1346	1568

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5928 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.2	4.7
10°-20°	401.2	13.0
20°-30°	555.4	18.0
30°-40°	592.3	19.2
40°-50°	540.3	17.5
50°-60°	423.3	13.7
60°-70°	275.9	8.9
70°-80°	122.2	4.0
80°-90°	26.2	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°	1102.8	35.8
0°-40°	1695.1	55.0
0°-60°	2658.7	86.2
0°-90°	3083.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3083.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1570	1570	1570	1570	1570	
5°	1543	1541	1541	1540	1540	146
15°	1443	1443	1429	1414	1409	406
25°	1251	1244	1224	1180	1147	574
35°	1015	1008	959	886	864	634
45°	779	762	697	639	614	600
55°	541	525	476	419	398	485
65°	321	303	274	280	232	317
75°	129	120	113	107	118	138
85°	18	20	22	24	25	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1570.4	1570.4	1570.4	1570.4	1570.4
2.5°	1559.5	1559.5	1559.5	1557.7	1557.7
5°	1543.2	1541.4	1541.4	1539.6	1539.6
7.5°	1530.5	1528.7	1526.9	1525.1	1521.4
10°	1512.3	1512.3	1510.5	1501.4	1499.6
12.5°	1483.3	1481.5	1474.2	1461.5	1457.9
15°	1443.4	1443.4	1428.8	1414.3	1408.9
17.5°	1399.8	1398.0	1379.8	1365.3	1358.0
20°	1352.6	1348.9	1330.8	1307.2	1294.5
22.5°	1299.9	1299.9	1278.1	1247.3	1234.6
25°	1250.9	1243.6	1223.7	1180.1	1147.4
27.5°	1194.6	1183.7	1161.9	1100.2	1062.1
30°	1132.9	1127.4	1096.6	1016.7	987.7
32.5°	1074.8	1065.7	1033.0	949.5	925.9
35°	1014.9	1007.6	958.6	886.0	864.2
37.5°	955.0	945.9	884.2	826.1	798.8
40°	895.1	884.2	817.0	764.3	735.3
42.5°	838.8	824.3	758.9	702.6	669.9
45°	778.9	762.5	697.2	639.1	613.7
47.5°	719.0	704.4	644.5	584.6	555.6
50°	655.4	642.7	588.2	528.3	497.5
52.5°	602.8	582.8	530.1	470.2	444.8
55°	541.0	524.7	475.7	419.4	397.6
57.5°	484.7	468.4	423.0	370.4	352.2
60°	432.1	408.5	370.4	325.0	310.5
62.5°	374.0	355.8	323.2	285.0	303.2
65°	321.3	303.2	274.1	279.6	232.4
67.5°	263.3	254.2	228.8	203.3	196.1
70°	214.2	203.3	194.3	167.0	159.8
72.5°	170.7	159.8	147.1	132.5	127.1
75°	128.9	119.8	112.6	107.1	118.0
77.5°	89.0	85.3	79.9	74.4	72.6
80°	58.1	56.3	54.5	52.7	50.8
82.5°	34.5	34.5	34.5	34.5	34.5
85°	18.2	20.0	21.8	23.6	25.4
87.5°	10.9	10.9	12.7	14.5	16.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)