

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: P589968

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-93-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589968  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1LO-35-UNV-93-87-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

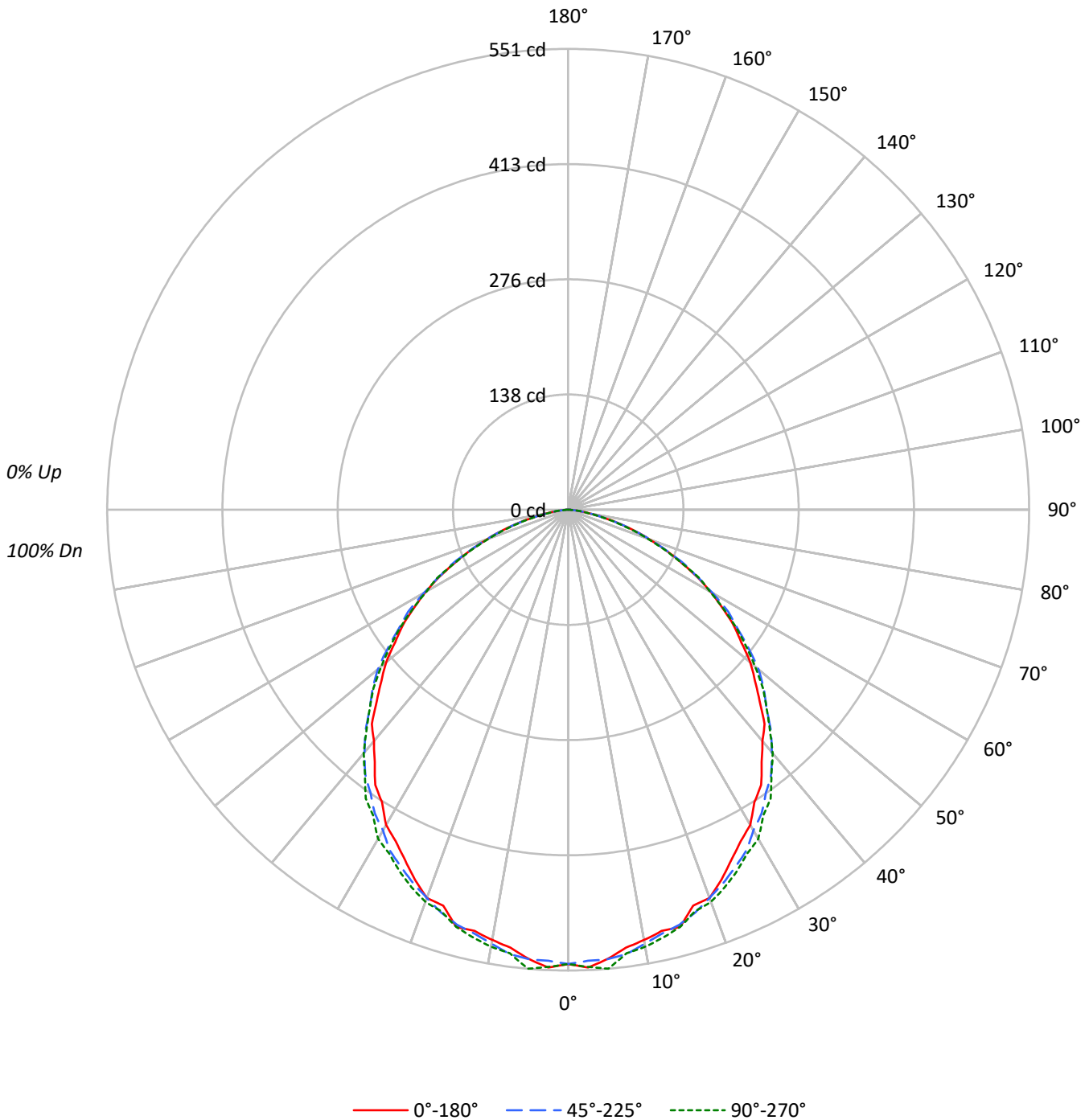
Lumens per Lamp: N/A  
Luminaire Lumens: 1369.0 lumens  
Efficiency: N/A  
Efficacy: 117.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1462	1462	1462
5°	1457	1457	1488
10°	1427	1440	1450
15°	1439	1431	1439
20°	1414	1414	1429
25°	1371	1401	1416
30°	1352	1376	1412
35°	1320	1355	1385
40°	1269	1330	1336
45°	1230	1274	1276
50°	1190	1244	1220
55°	1134	1156	1148
60°	1060	1071	1052
65°	946	970	939
70°	811	814	792
75°	643	640	617
80°	431	418	401
85°	235	232	216

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1307 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.1	3.7
10°-20°	144.8	10.6
20°-30°	217.0	15.8
30°-40°	257.1	18.8
40°-50°	257.6	18.8
50°-60°	218.7	16.0
60°-70°	147.4	10.8
70°-80°	64.8	4.7
80°-90°	10.5	0.8
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°	412.9	30.2
0°-40°	670.0	48.9
0°-60°	1146.3	83.7
0°-90°	1369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1369.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	543	543	543	543	543	
5°	539	538	540	538	551	51
15°	516	510	514	516	516	144
25°	462	464	472	478	477	213
35°	402	403	412	422	422	250
45°	323	329	335	343	335	250
55°	242	240	246	245	245	215
65°	148	146	152	146	147	148
75°	62	60	62	57	59	66
85°	8	7	8	7	7	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	543.2	543.2	543.2	543.2	543.2
2.5°	547.9	543.7	539.9	544.4	547.1
5°	539.3	538.1	539.5	537.9	550.9
7.5°	528.2	533.1	535.9	534.1	534.9
10°	522.4	520.7	526.9	531.3	530.6
12.5°	516.0	518.6	518.9	523.6	524.0
15°	516.4	510.4	513.6	516.3	516.5
17.5°	496.3	502.8	505.0	511.1	503.5
20°	493.9	489.2	493.9	500.1	499.1
22.5°	478.8	473.5	483.6	489.2	488.8
25°	461.7	464.2	471.8	478.0	477.0
27.5°	446.7	449.6	460.4	468.9	463.4
30°	435.1	433.6	442.8	450.3	454.5
32.5°	414.4	419.7	430.4	437.9	433.9
35°	401.9	403.1	412.4	421.9	421.6
37.5°	379.9	385.5	398.6	401.2	398.8
40°	361.2	366.7	378.6	381.5	380.3
42.5°	347.4	348.4	358.5	361.8	356.6
45°	323.3	329.3	334.8	343.4	335.3
47.5°	302.8	305.6	317.4	319.7	315.5
50°	284.3	285.2	297.1	294.2	291.4
52.5°	260.9	265.0	271.7	271.1	267.8
55°	241.7	240.1	246.4	244.7	244.6
57.5°	218.6	221.4	226.6	223.9	219.7
60°	197.0	197.1	199.0	196.0	195.4
62.5°	172.9	173.8	174.2	170.5	176.5
65°	148.5	146.5	152.3	146.4	147.4
67.5°	126.0	126.9	126.4	122.7	124.1
70°	103.1	104.4	103.4	99.3	100.6
72.5°	82.2	80.7	81.6	76.4	78.8
75°	61.8	60.5	61.6	57.3	59.3
77.5°	42.1	43.1	42.4	40.0	41.4
80°	27.8	27.0	27.0	25.7	25.9
82.5°	16.2	15.4	15.2	14.8	15.4
85°	7.6	7.4	7.5	7.3	7.0
87.5°	2.7	2.8	2.8	2.7	2.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)