

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: P590032

Luminaire Tested: FSR-24-2-LD4-1LO-50-UNV-93-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590032  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

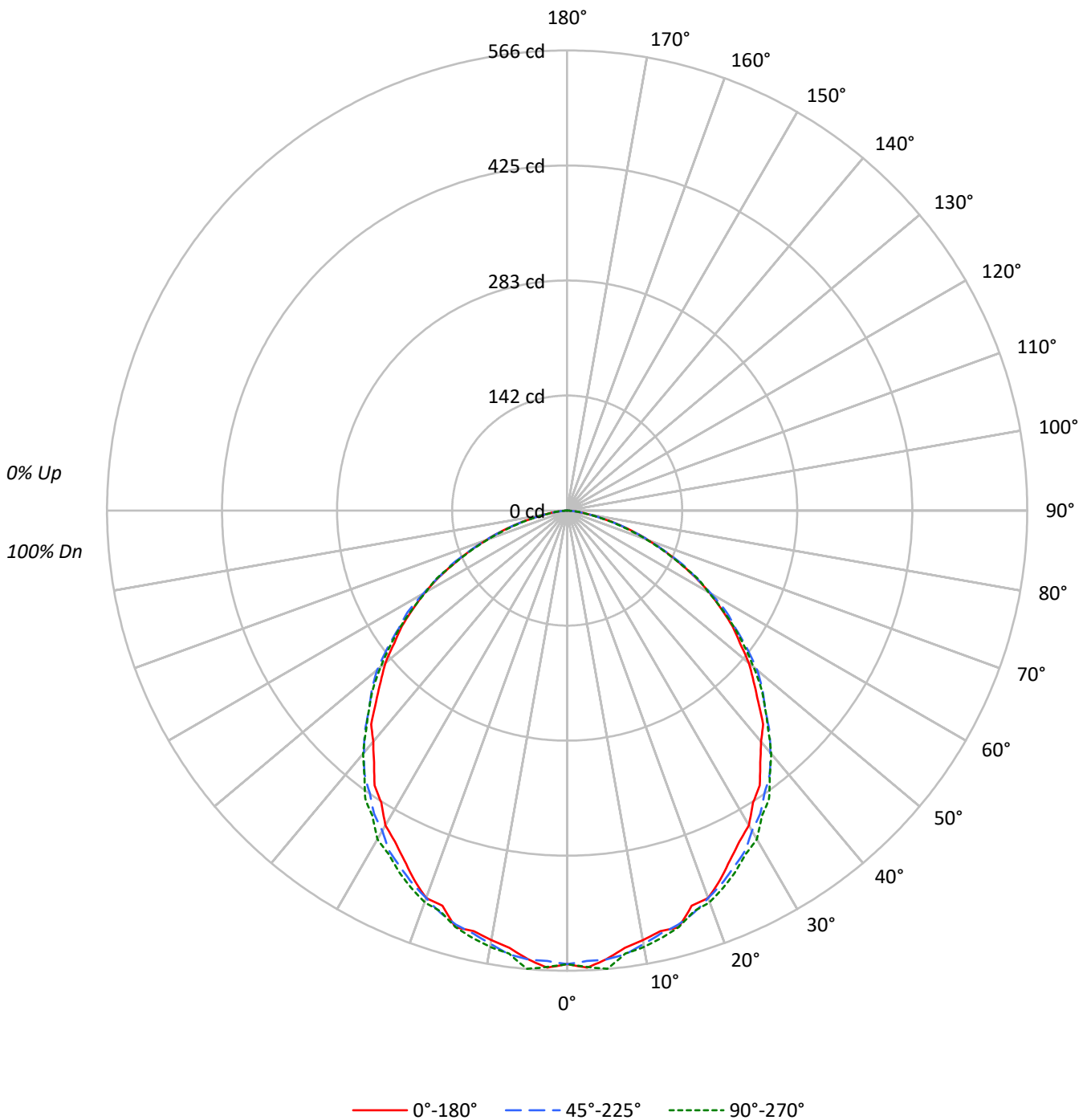
Lumens per Lamp: N/A  
Luminaire Lumens: 1406.0 lumens  
Efficiency: N/A  
Efficacy: 120.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1501	1501	1501
5°	1496	1497	1528
10°	1466	1479	1489
15°	1478	1470	1478
20°	1452	1452	1468
25°	1408	1439	1455
30°	1389	1413	1450
35°	1356	1391	1422
40°	1303	1366	1372
45°	1264	1309	1311
50°	1222	1277	1253
55°	1164	1187	1179
60°	1089	1100	1080
65°	971	996	964
70°	833	836	813
75°	660	658	633
80°	442	429	414
85°	241	238	222

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1342 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.5	3.7
10°-20°	148.7	10.6
20°-30°	222.8	15.8
30°-40°	264.1	18.8
40°-50°	264.6	18.8
50°-60°	224.6	16.0
60°-70°	151.4	10.8
70°-80°	66.5	4.7
80°-90°	10.8	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°	424.0	30.2
0°-40°	688.1	48.9
0°-60°	1177.2	83.7
0°-90°	1406.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1406.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	558	558	558	558	558	
5°	554	553	554	552	566	52
15°	530	524	528	530	530	148
25°	474	477	484	491	490	219
35°	413	414	424	433	433	256
45°	332	338	344	353	344	257
55°	248	247	253	251	251	221
65°	152	150	156	150	151	152
75°	64	62	63	59	61	68
85°	8	8	8	8	7	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	557.9	557.9	557.9	557.9	557.9
2.5°	562.7	558.4	554.5	559.1	561.9
5°	553.9	552.6	554.1	552.5	565.8
7.5°	542.5	547.5	550.4	548.6	549.4
10°	536.5	534.7	541.2	545.6	545.0
12.5°	530.0	532.6	532.9	537.8	538.2
15°	530.4	524.2	527.5	530.2	530.4
17.5°	509.7	516.4	518.6	524.9	517.1
20°	507.2	502.4	507.2	513.6	512.6
22.5°	491.7	486.3	496.7	502.4	502.0
25°	474.2	476.8	484.5	490.9	489.9
27.5°	458.8	461.8	472.9	481.6	476.0
30°	446.9	445.4	454.7	462.5	466.8
32.5°	425.6	431.1	442.0	449.7	445.6
35°	412.7	414.0	423.5	433.3	433.0
37.5°	390.2	395.9	409.3	412.1	409.6
40°	370.9	376.6	388.8	391.8	390.5
42.5°	356.8	357.8	368.2	371.6	366.2
45°	332.1	338.2	343.9	352.7	344.4
47.5°	311.0	313.9	326.0	328.4	324.0
50°	291.9	292.9	305.1	302.2	299.3
52.5°	267.9	272.2	279.0	278.5	275.1
55°	248.2	246.6	253.0	251.3	251.2
57.5°	224.5	227.4	232.7	230.0	225.6
60°	202.3	202.4	204.3	201.2	200.7
62.5°	177.6	178.5	178.9	175.1	181.3
65°	152.5	150.5	156.4	150.4	151.4
67.5°	129.4	130.4	129.8	126.1	127.5
70°	105.9	107.2	106.2	102.0	103.3
72.5°	84.4	82.8	83.8	78.5	81.0
75°	63.5	62.2	63.3	58.8	60.9
77.5°	43.2	44.2	43.5	41.1	42.5
80°	28.5	27.7	27.7	26.4	26.7
82.5°	16.6	15.8	15.6	15.2	15.8
85°	7.8	7.6	7.7	7.5	7.2
87.5°	2.8	2.9	2.9	2.7	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)