

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: P559854

Luminaire Tested: FSR-12-2-LD4-1LO-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559854  
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-LD4-1LO-35-UNV-93-97-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

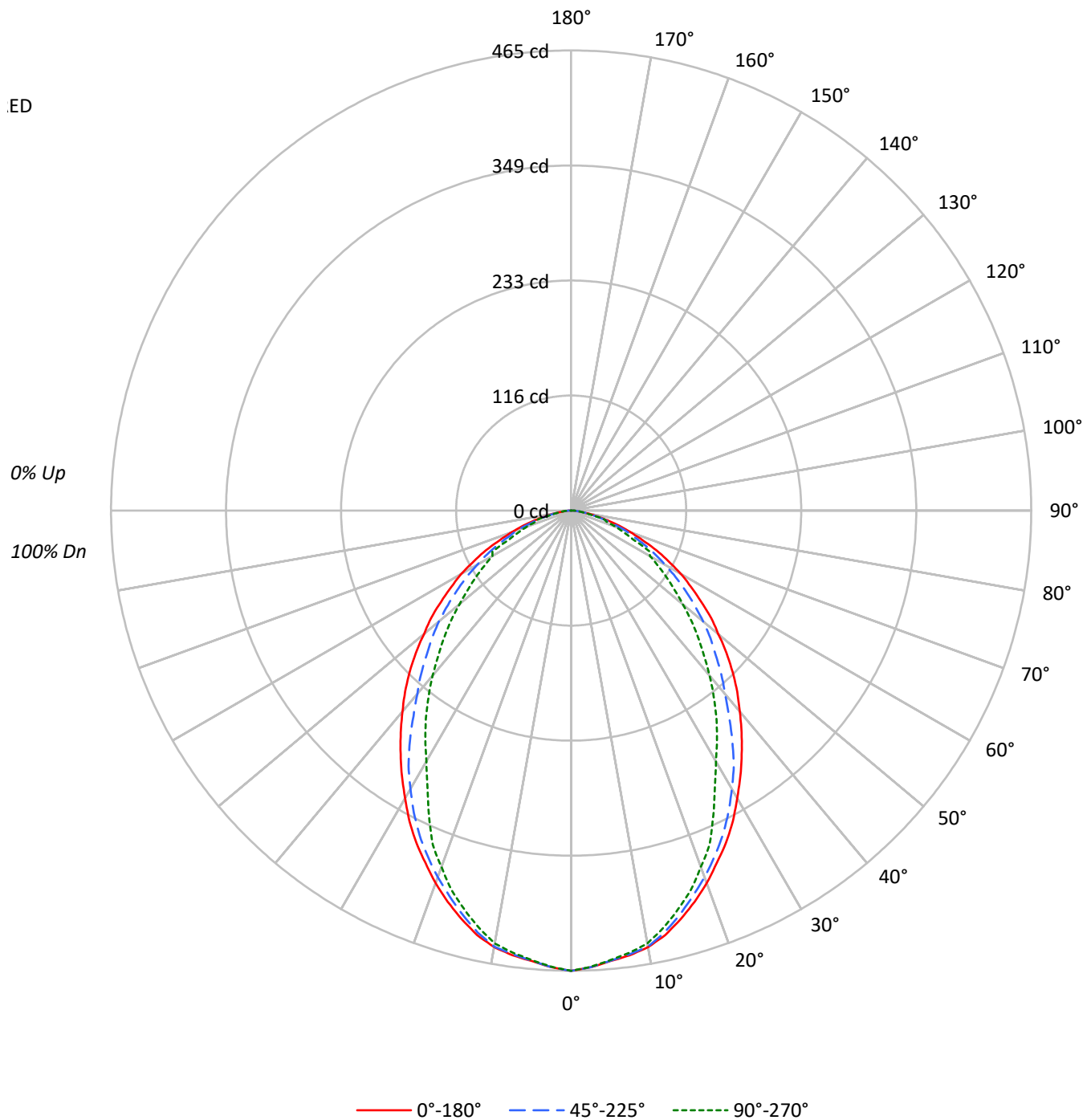
Lumens per Lamp: N/A  
Luminaire Lumens: 913.0 lumens  
Efficiency: N/A  
Efficacy: 78.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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					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°	2503	2503	2503
5°	2469	2466	2463
10°	2448	2444	2427
15°	2381	2357	2325
20°	2294	2257	2195
25°	2200	2152	2018
30°	2085	2018	1818
35°	1974	1865	1681
40°	1862	1700	1529
45°	1756	1572	1383
50°	1625	1459	1233
55°	1503	1322	1104
60°	1378	1181	989
65°	1212	1034	876
70°	998	905	744
75°	794	692	726
80°	533	499	468
85°	333	401	463

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1756 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.3	4.7
10°-20°	118.8	13.0
20°-30°	164.5	18.0
30°-40°	175.4	19.2
40°-50°	160.0	17.5
50°-60°	125.4	13.7
60°-70°	81.7	8.9
70°-80°	36.2	4.0
80°-90°	7.8	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°	326.6	35.8
0°-40°	502.0	55.0
0°-60°	787.3	86.2
0°-90°	913.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	913.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	465	465	465	465	465	
5°	457	456	456	456	456	43
15°	427	427	423	419	417	120
25°	370	368	362	350	340	170
35°	300	298	284	262	256	188
45°	231	226	206	189	182	178
55°	160	155	141	124	118	144
65°	95	90	81	83	69	94
75°	38	36	33	32	35	41
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	465.1	465.1	465.1	465.1	465.1
2.5°	461.8	461.8	461.8	461.3	461.3
5°	457.0	456.5	456.5	455.9	455.9
7.5°	453.2	452.7	452.2	451.6	450.6
10°	447.9	447.9	447.3	444.6	444.1
12.5°	439.3	438.7	436.6	432.8	431.7
15°	427.4	427.4	423.1	418.8	417.2
17.5°	414.5	414.0	408.6	404.3	402.2
20°	400.6	399.5	394.1	387.1	383.3
22.5°	385.0	385.0	378.5	369.4	365.6
25°	370.4	368.3	362.4	349.5	339.8
27.5°	353.8	350.5	344.1	325.8	314.5
30°	335.5	333.9	324.7	301.1	292.5
32.5°	318.3	315.6	305.9	281.2	274.2
35°	300.5	298.4	283.9	262.4	255.9
37.5°	282.8	280.1	261.8	244.6	236.6
40°	265.1	261.8	241.9	226.4	217.7
42.5°	248.4	244.1	224.7	208.1	198.4
45°	230.7	225.8	206.5	189.3	181.7
47.5°	212.9	208.6	190.9	173.1	164.5
50°	194.1	190.3	174.2	156.5	147.3
52.5°	178.5	172.6	157.0	139.3	131.7
55°	160.2	155.4	140.9	124.2	117.7
57.5°	143.6	138.7	125.3	109.7	104.3
60°	128.0	121.0	109.7	96.2	91.9
62.5°	110.8	105.4	95.7	84.4	89.8
65°	95.2	89.8	81.2	82.8	68.8
67.5°	78.0	75.3	67.7	60.2	58.1
70°	63.4	60.2	57.5	49.5	47.3
72.5°	50.5	47.3	43.5	39.2	37.6
75°	38.2	35.5	33.3	31.7	34.9
77.5°	26.3	25.3	23.7	22.0	21.5
80°	17.2	16.7	16.1	15.6	15.1
82.5°	10.2	10.2	10.2	10.2	10.2
85°	5.4	5.9	6.5	7.0	7.5
87.5°	3.2	3.2	3.8	4.3	4.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)