

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: P558949

Luminaire Tested: FSR-12-1-LD4-1STD-40-UNV-93-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558949  
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-12-1-LD4-1STD-40-UNV-93-86-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

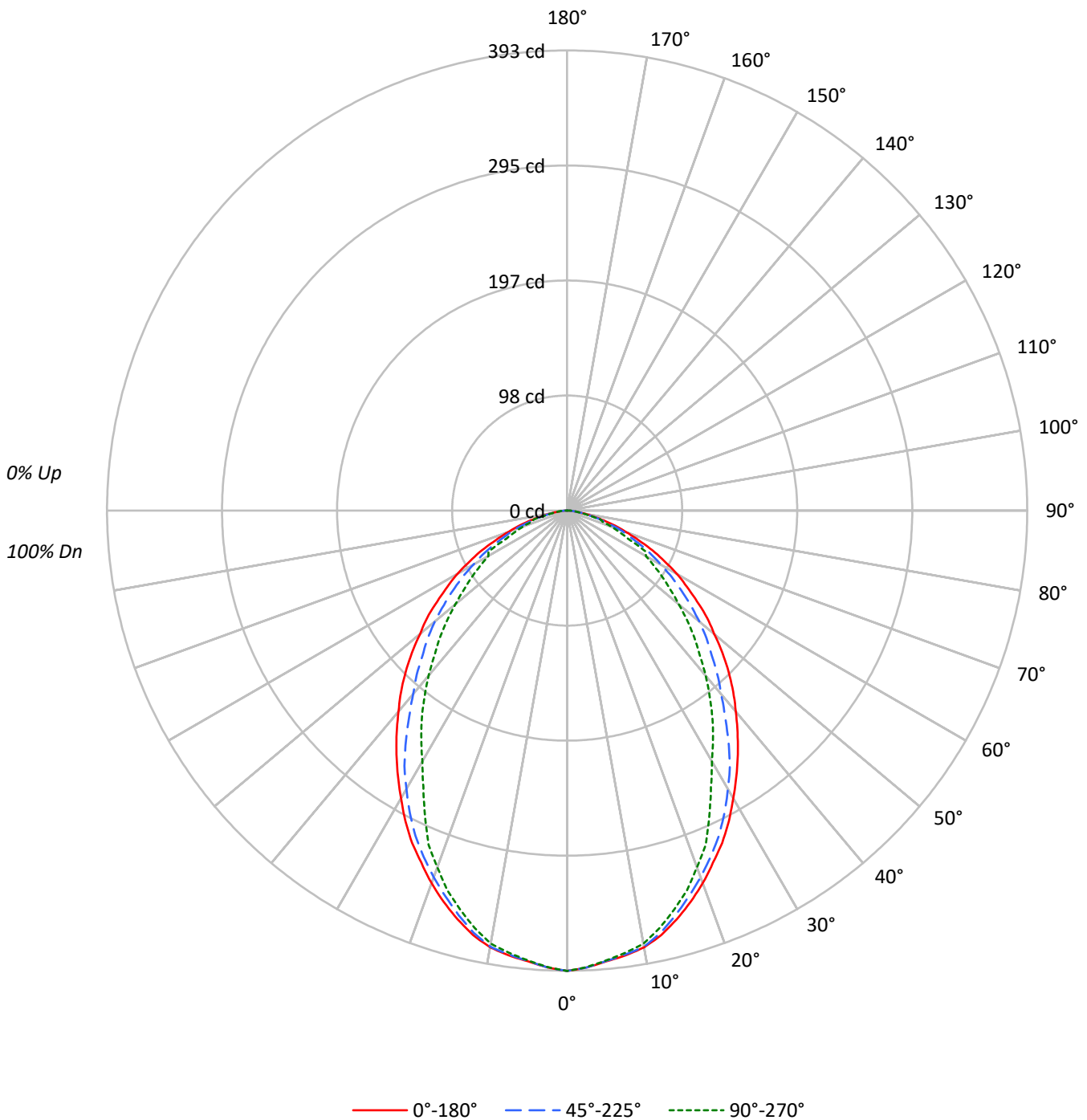
Lumens per Lamp: N/A  
Luminaire Lumens: 772.0 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 8.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	39	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°	4232	4232	4232
5°	4175	4171	4165
10°	4139	4134	4104
15°	4027	3987	3931
20°	3880	3817	3712
25°	3720	3639	3412
30°	3526	3413	3074
35°	3339	3154	2844
40°	3149	2875	2587
45°	2968	2658	2340
50°	2748	2467	2087
55°	2543	2235	1869
60°	2329	1996	1673
65°	2050	1747	1482
70°	1687	1530	1259
75°	1343	1173	1231
80°	899	843	787
85°	556	679	790

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2968 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.6	4.7
10°-20°	100.5	13.0
20°-30°	139.1	18.0
30°-40°	148.3	19.2
40°-50°	135.3	17.5
50°-60°	106.0	13.7
60°-70°	69.1	8.9
70°-80°	30.6	4.0
80°-90°	6.6	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°	276.2	35.8
0°-40°	424.5	55.0
0°-60°	665.7	86.2
0°-90°	772.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	772.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	393	393	393	393	393	
5°	386	386	386	386	386	37
15°	361	361	358	354	353	102
25°	313	311	306	296	287	144
35°	254	252	240	222	216	159
45°	195	191	175	160	154	150
55°	136	131	119	105	100	122
65°	80	76	69	70	58	79
75°	32	30	28	27	30	35
85°	4	5	6	6	6	6
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	393.2	393.2	393.2	393.2	393.2
2.5°	390.5	390.5	390.5	390.1	390.1
5°	386.4	386.0	386.0	385.5	385.5
7.5°	383.2	382.8	382.3	381.9	381.0
10°	378.7	378.7	378.2	376.0	375.5
12.5°	371.4	371.0	369.2	366.0	365.1
15°	361.4	361.4	357.8	354.1	352.8
17.5°	350.5	350.1	345.5	341.9	340.1
20°	338.7	337.8	333.2	327.3	324.1
22.5°	325.5	325.5	320.1	312.3	309.1
25°	313.2	311.4	306.4	295.5	287.3
27.5°	299.1	296.4	291.0	275.5	266.0
30°	283.7	282.3	274.6	254.6	247.3
32.5°	269.1	266.9	258.7	237.8	231.9
35°	254.1	252.3	240.0	221.9	216.4
37.5°	239.1	236.9	221.4	206.9	200.0
40°	224.1	221.4	204.6	191.4	184.1
42.5°	210.0	206.4	190.0	175.9	167.8
45°	195.0	190.9	174.6	160.0	153.7
47.5°	180.0	176.4	161.4	146.4	139.1
50°	164.1	160.9	147.3	132.3	124.6
52.5°	150.9	145.9	132.7	117.7	111.4
55°	135.5	131.4	119.1	105.0	99.6
57.5°	121.4	117.3	105.9	92.7	88.2
60°	108.2	102.3	92.7	81.4	77.7
62.5°	93.7	89.1	80.9	71.4	75.9
65°	80.5	75.9	68.6	70.0	58.2
67.5°	65.9	63.6	57.3	50.9	49.1
70°	53.6	50.9	48.6	41.8	40.0
72.5°	42.7	40.0	36.8	33.2	31.8
75°	32.3	30.0	28.2	26.8	29.6
77.5°	22.3	21.4	20.0	18.6	18.2
80°	14.5	14.1	13.6	13.2	12.7
82.5°	8.6	8.6	8.6	8.6	8.6
85°	4.5	5.0	5.5	5.9	6.4
87.5°	2.7	2.7	3.2	3.6	4.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)