

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: P559145

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559145  
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-LD4-2HI-40-UNV-93-88-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

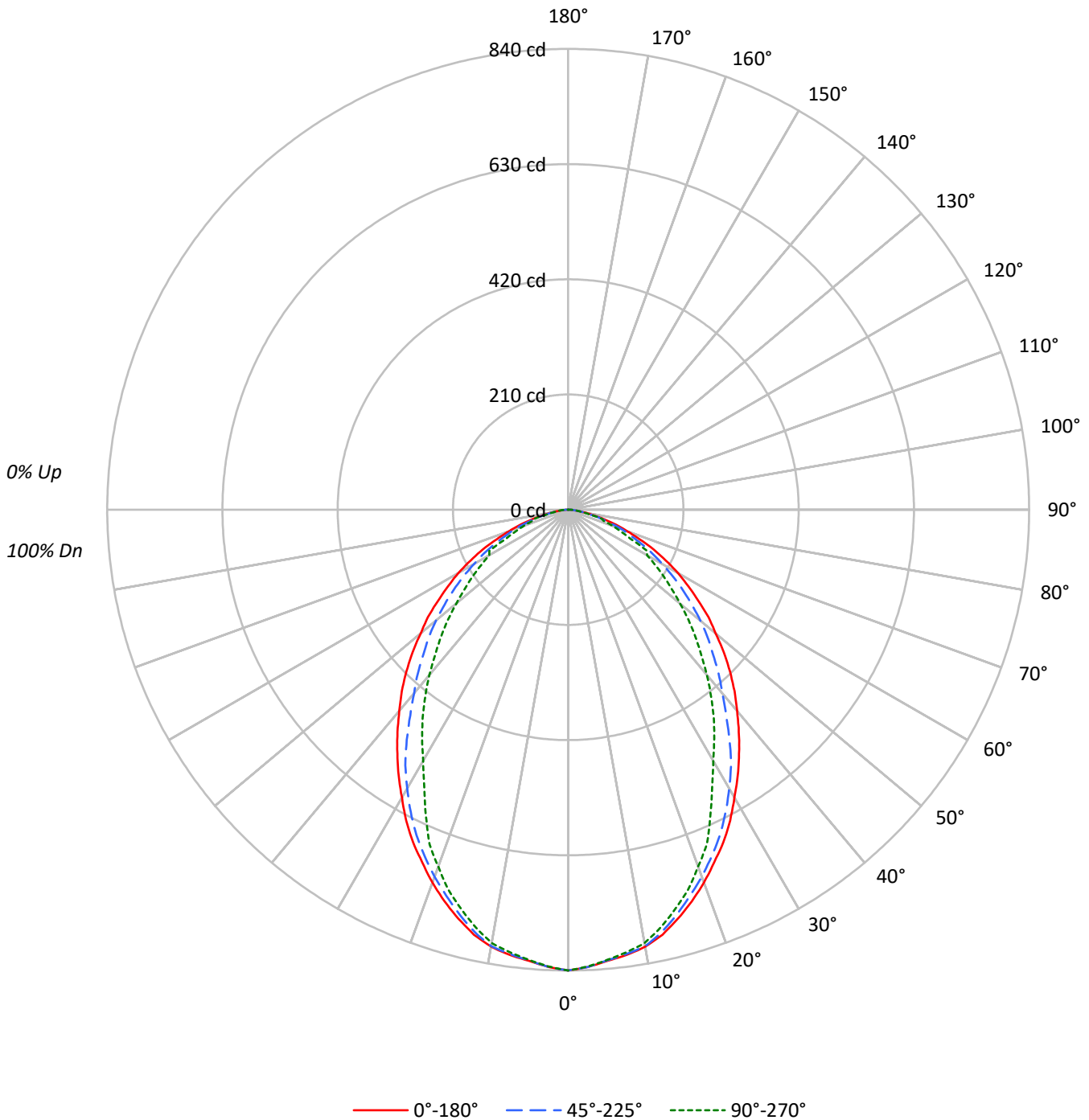
Lumens per Lamp: N/A  
Luminaire Lumens: 1649.0 lumens  
Efficiency: N/A  
Efficacy: 76.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

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

	0°	45°	90°
0°	9042	9042	9042
5°	8918	8908	8898
10°	8841	8830	8767
15°	8603	8516	8398
20°	8286	8153	7931
25°	7947	7773	7289
30°	7531	7290	6566
35°	7133	6737	6073
40°	6726	6140	5526
45°	6342	5676	4996
50°	5871	5268	4456
55°	5431	4774	3992
60°	4975	4265	3576
65°	4378	3734	3166
70°	3607	3270	2691
75°	2865	2504	2624
80°	1928	1804	1686
85°	1198	1445	1680

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6342 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.2	4.7
10°-20°	214.6	13.0
20°-30°	297.1	18.0
30°-40°	316.8	19.2
40°-50°	289.0	17.5
50°-60°	226.4	13.7
60°-70°	147.6	8.9
70°-80°	65.4	4.0
80°-90°	14.1	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°	589.9	35.8
0°-40°	906.6	55.0
0°-60°	1422.0	86.2
0°-90°	1649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1649.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	840	840	840	840	840	
5°	825	824	824	824	824	78
15°	772	772	764	756	754	217
25°	669	665	654	631	614	307
35°	543	539	513	474	462	339
45°	417	408	373	342	328	321
55°	289	281	254	224	213	260
65°	172	162	147	150	124	169
75°	69	64	60	57	63	74
85°	10	11	12	13	14	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	840.0	840.0	840.0	840.0	840.0
2.5°	834.2	834.2	834.2	833.2	833.2
5°	825.4	824.4	824.4	823.5	823.5
7.5°	818.6	817.6	816.7	815.7	813.8
10°	808.9	808.9	807.9	803.1	802.1
12.5°	793.4	792.4	788.5	781.7	779.8
15°	772.0	772.0	764.2	756.5	753.6
17.5°	748.7	747.7	738.0	730.2	726.4
20°	723.4	721.5	711.8	699.2	692.4
22.5°	695.3	695.3	683.6	667.1	660.3
25°	669.1	665.2	654.5	631.2	613.7
27.5°	639.0	633.1	621.5	588.5	568.1
30°	605.9	603.0	586.5	543.8	528.3
32.5°	574.9	570.0	552.5	507.9	495.2
35°	542.8	538.9	512.7	473.9	462.2
37.5°	510.8	505.9	472.9	441.8	427.3
40°	478.7	472.9	437.0	408.8	393.3
42.5°	448.6	440.9	405.9	375.8	358.3
45°	416.6	407.9	372.9	341.8	328.2
47.5°	384.5	376.8	344.7	312.7	297.1
50°	350.6	343.8	314.6	282.6	266.1
52.5°	322.4	311.7	283.6	251.5	237.9
55°	289.4	280.6	254.4	224.3	212.7
57.5°	259.3	250.5	226.3	198.1	188.4
60°	231.1	218.5	198.1	173.8	166.1
62.5°	200.0	190.3	172.9	152.5	162.2
65°	171.9	162.2	146.6	149.5	124.3
67.5°	140.8	136.0	122.4	108.8	104.9
70°	114.6	108.8	103.9	89.3	85.5
72.5°	91.3	85.5	78.7	70.9	68.0
75°	68.9	64.1	60.2	57.3	63.1
77.5°	47.6	45.6	42.7	39.8	38.8
80°	31.1	30.1	29.1	28.2	27.2
82.5°	18.5	18.5	18.5	18.5	18.5
85°	9.7	10.7	11.7	12.6	13.6
87.5°	5.8	5.8	6.8	7.8	8.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)