

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: P559333

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-93-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559333  
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-LD4-2LO-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**

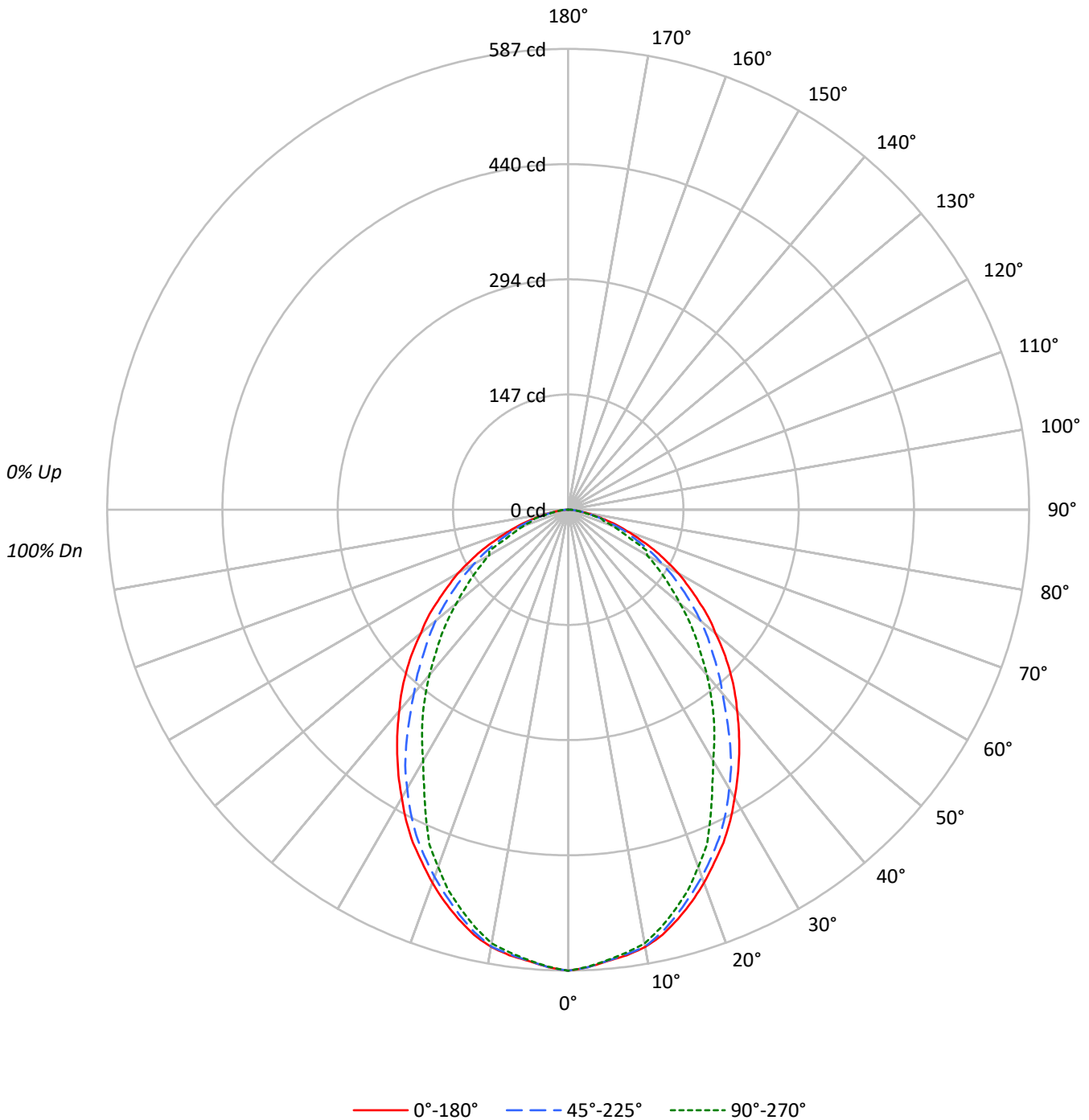
Lumens per Lamp: N/A  
Luminaire Lumens: 1153.0 lumens  
Efficiency: N/A  
Efficacy: 98.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6322	6322	6322
5°	6236	6229	6222
10°	6182	6174	6130
15°	6015	5955	5872
20°	5794	5701	5545
25°	5556	5435	5096
30°	5266	5097	4591
35°	4988	4711	4247
40°	4703	4293	3864
45°	4434	3968	3494
50°	4104	3684	3115
55°	3796	3339	2791
60°	3479	2982	2499
65°	3061	2611	2213
70°	2521	2288	1882
75°	2005	1751	1834
80°	1345	1265	1178
85°	840	1000	1173

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4434 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.7	4.7
10°-20°	150.0	13.0
20°-30°	207.7	18.0
30°-40°	221.5	19.2
40°-50°	202.1	17.5
50°-60°	158.3	13.7
60°-70°	103.2	8.9
70°-80°	45.7	4.0
80°-90°	9.8	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°	412.4	35.8
0°-40°	633.9	55.0
0°-60°	994.3	86.2
0°-90°	1153.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1153.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	587	587	587	587	587	
5°	577	576	576	576	576	55
15°	540	540	534	529	527	152
25°	468	465	458	441	429	215
35°	380	377	358	331	323	237
45°	291	285	261	239	230	224
55°	202	196	178	157	149	181
65°	120	113	102	105	87	118
75°	48	45	42	40	44	52
85°	7	8	8	9	10	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	587.3	587.3	587.3	587.3	587.3
2.5°	583.2	583.2	583.2	582.6	582.6
5°	577.1	576.5	576.5	575.8	575.8
7.5°	572.4	571.7	571.0	570.3	569.0
10°	565.6	565.6	564.9	561.5	560.8
12.5°	554.7	554.1	551.3	546.6	545.2
15°	539.8	539.8	534.4	528.9	526.9
17.5°	523.5	522.8	516.0	510.6	507.9
20°	505.8	504.5	497.7	488.9	484.1
22.5°	486.2	486.2	478.0	466.5	461.7
25°	467.8	465.1	457.6	441.3	429.1
27.5°	446.8	442.7	434.6	411.5	397.2
30°	423.7	421.7	410.1	380.2	369.4
32.5°	402.0	398.6	386.3	355.1	346.3
35°	379.6	376.8	358.5	331.3	323.2
37.5°	357.1	353.8	330.7	308.9	298.8
40°	334.7	330.7	305.5	285.9	275.0
42.5°	313.7	308.3	283.8	262.8	250.5
45°	291.3	285.2	260.7	239.0	229.5
47.5°	268.9	263.4	241.0	218.6	207.8
50°	245.1	240.4	220.0	197.6	186.0
52.5°	225.4	218.0	198.3	175.9	166.4
55°	202.3	196.2	177.9	156.8	148.7
57.5°	181.3	175.2	158.2	138.5	131.7
60°	161.6	152.8	138.5	121.5	116.1
62.5°	139.9	133.1	120.9	106.6	113.4
65°	120.2	113.4	102.5	104.6	86.9
67.5°	98.5	95.1	85.6	76.0	73.3
70°	80.1	76.0	72.7	62.5	59.8
72.5°	63.8	59.8	55.0	49.6	47.5
75°	48.2	44.8	42.1	40.1	44.1
77.5°	33.3	31.9	29.9	27.8	27.2
80°	21.7	21.0	20.4	19.7	19.0
82.5°	12.9	12.9	12.9	12.9	12.9
85°	6.8	7.5	8.1	8.8	9.5
87.5°	4.1	4.1	4.8	5.4	6.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)