

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: P559521

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-93-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559521  
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-LD4-2STD-40-UNV-93-84-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

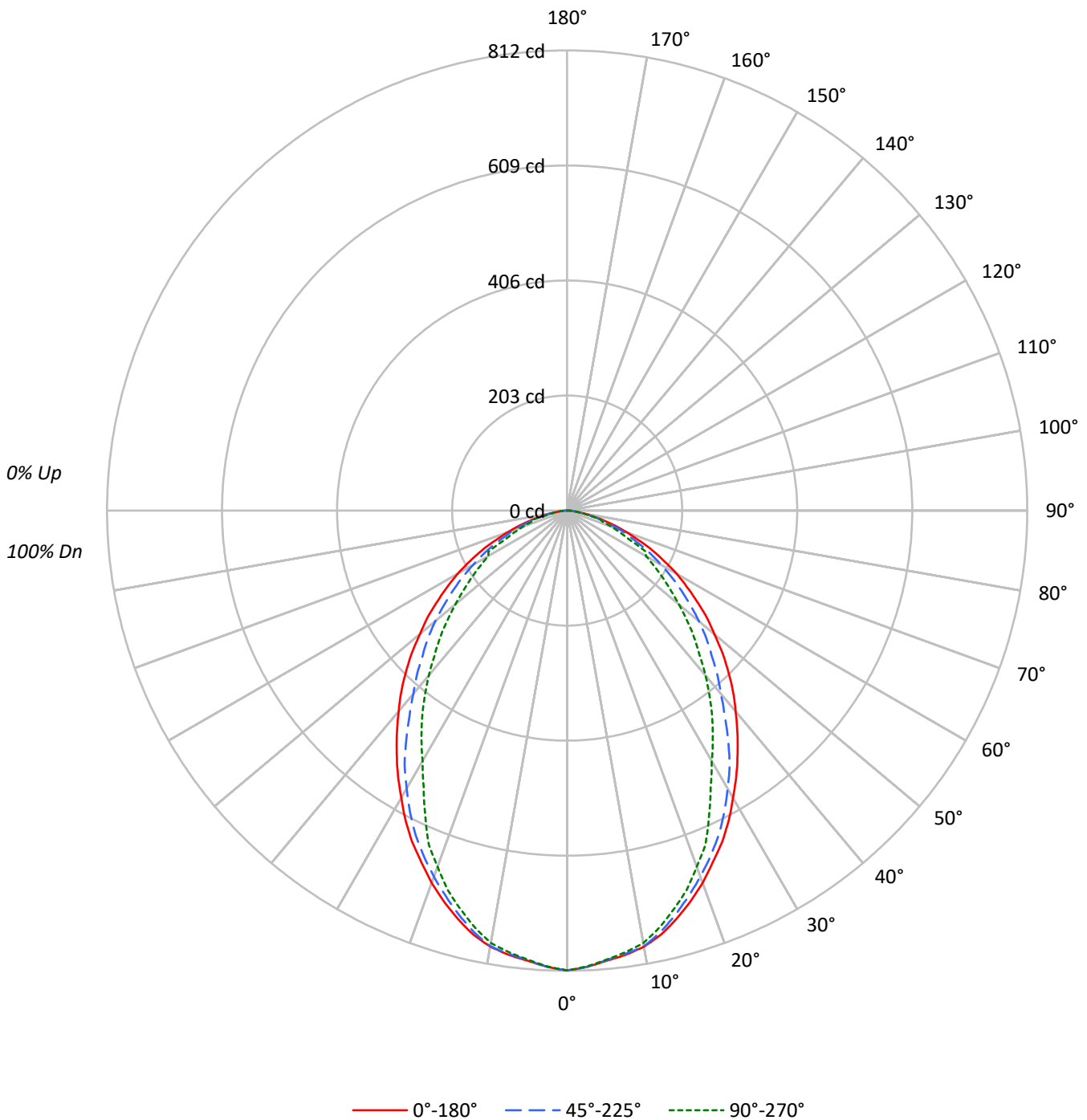
Lumens per Lamp: N/A  
Luminaire Lumens: 1593.0 lumens  
Efficiency: N/A  
Efficacy: 96.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	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°	8735	8735	8735
5°	8616	8605	8595
10°	8541	8531	8470
15°	8311	8227	8113
20°	8006	7876	7662
25°	7676	7510	7042
30°	7276	7042	6343
35°	6891	6508	5867
40°	6499	5931	5338
45°	6126	5483	4827
50°	5672	5089	4304
55°	5247	4613	3855
60°	4807	4120	3453
65°	4228	3609	3059
70°	3484	3160	2600
75°	2770	2420	2537
80°	1860	1742	1630
85°	1161	1396	1618

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6126 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.5	4.7
10°-20°	207.3	13.0
20°-30°	287.0	18.0
30°-40°	306.0	19.2
40°-50°	279.2	17.5
50°-60°	218.7	13.7
60°-70°	142.6	8.9
70°-80°	63.2	4.0
80°-90°	13.6	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°	569.8	35.8
0°-40°	875.8	55.0
0°-60°	1373.7	86.2
0°-90°	1593.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1593.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	812	812	812	812	812	
5°	797	796	796	796	796	76
15°	746	746	738	731	728	210
25°	646	643	632	610	593	297
35°	524	521	495	458	446	328
45°	402	394	360	330	317	310
55°	280	271	246	217	205	251
65°	166	157	142	144	120	164
75°	67	62	58	55	61	71
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	811.5	811.5	811.5	811.5	811.5
2.5°	805.8	805.8	805.8	804.9	804.9
5°	797.4	796.4	796.4	795.5	795.5
7.5°	790.8	789.9	788.9	788.0	786.1
10°	781.4	781.4	780.5	775.8	774.9
12.5°	766.4	765.5	761.7	755.2	753.3
15°	745.8	745.8	738.3	730.8	728.0
17.5°	723.3	722.3	713.0	705.4	701.7
20°	698.9	697.0	687.6	675.4	668.9
22.5°	671.7	671.7	660.4	644.5	637.9
25°	646.3	642.6	632.3	609.8	592.9
27.5°	617.3	611.6	600.4	568.5	548.8
30°	585.4	582.6	566.6	525.3	510.3
32.5°	555.4	550.7	533.8	490.6	478.4
35°	524.4	520.6	495.3	457.8	446.5
37.5°	493.4	488.7	456.9	426.8	412.8
40°	462.5	456.9	422.1	394.9	379.9
42.5°	433.4	425.9	392.1	363.0	346.2
45°	402.4	394.0	360.2	330.2	317.1
47.5°	371.5	364.0	333.0	302.1	287.1
50°	338.7	332.1	303.9	273.0	257.0
52.5°	311.4	301.1	273.9	243.0	229.8
55°	279.6	271.1	245.8	216.7	205.4
57.5°	250.5	242.0	218.6	191.4	182.0
60°	223.3	211.1	191.4	167.9	160.4
62.5°	193.2	183.9	167.0	147.3	156.7
65°	166.0	156.7	141.7	144.5	120.1
67.5°	136.0	131.3	118.2	105.1	101.3
70°	110.7	105.1	100.4	86.3	82.6
72.5°	88.2	82.6	76.0	68.5	65.7
75°	66.6	61.9	58.2	55.3	61.0
77.5°	46.0	44.1	41.3	38.5	37.5
80°	30.0	29.1	28.1	27.2	26.3
82.5°	17.8	17.8	17.8	17.8	17.8
85°	9.4	10.3	11.3	12.2	13.1
87.5°	5.6	5.6	6.6	7.5	8.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)