

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: P558958

Luminaire Tested: FSR-12-1-LD4-1STD-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558958  
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-93-97-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

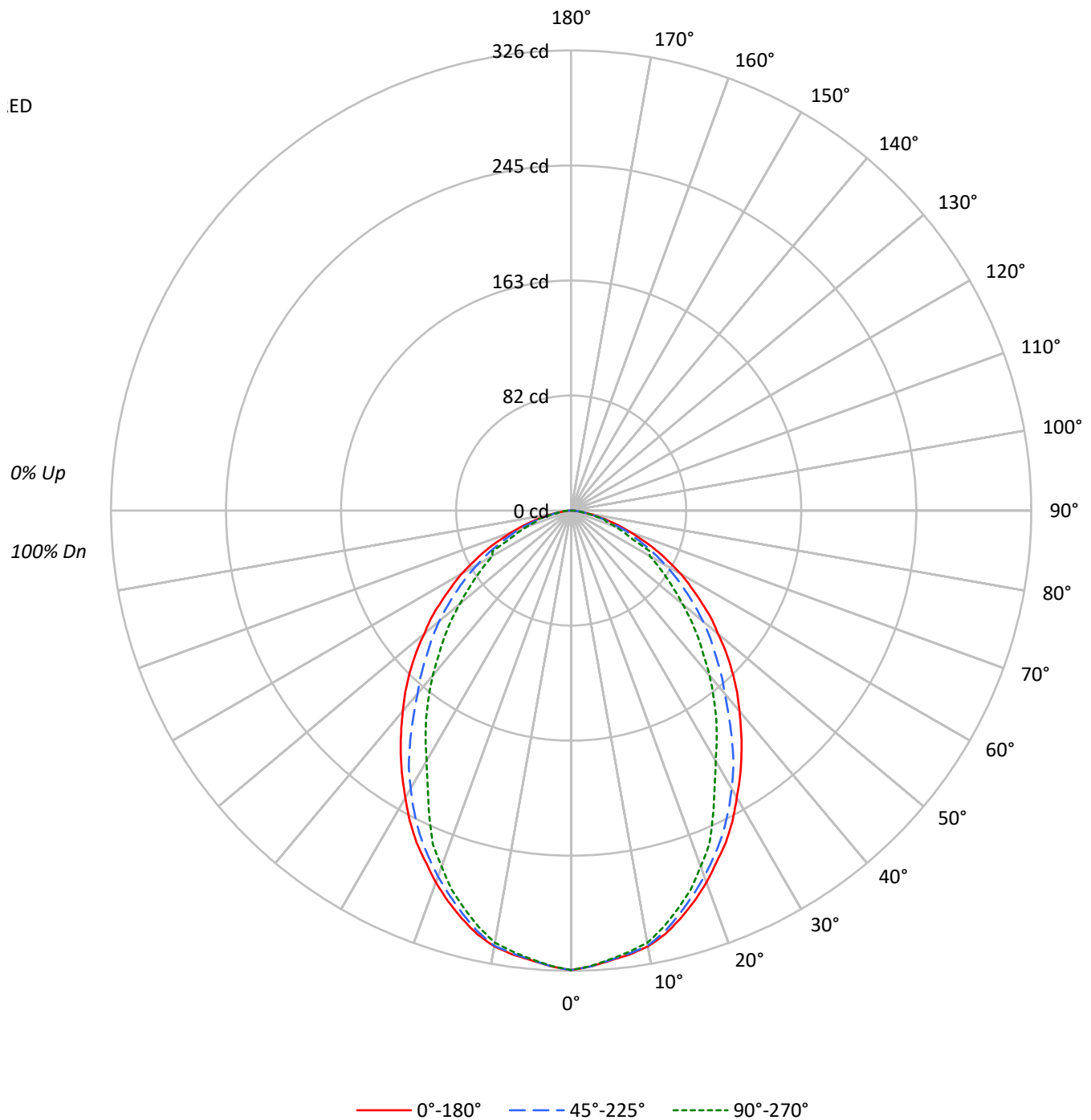
Lumens per Lamp: N/A  
Luminaire Lumens: 639.0 lumens  
Efficiency: N/A  
Efficacy: 77.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 8.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3504	3504	3504
5°	3457	3452	3448
10°	3427	3422	3397
15°	3334	3300	3254
20°	3211	3159	3073
25°	3080	3012	2824
30°	2918	2825	2544
35°	2765	2611	2353
40°	2607	2379	2141
45°	2457	2200	1936
50°	2274	2041	1726
55°	2104	1850	1546
60°	1929	1653	1384
65°	1696	1447	1228
70°	1397	1268	1042
75°	1110	969	1019
80°	744	700	651
85°	469	556	655

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2457 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.3	4.7
10°-20°	83.2	13.0
20°-30°	115.1	18.0
30°-40°	122.8	19.2
40°-50°	112.0	17.5
50°-60°	87.7	13.7
60°-70°	57.2	8.9
70°-80°	25.3	4.0
80°-90°	5.4	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°	228.6	35.8
0°-40°	351.3	55.0
0°-60°	551.0	86.2
0°-90°	639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	639.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	326	326	326	326	326	
5°	320	320	320	319	319	30
15°	299	299	296	293	292	84
25°	259	258	254	245	238	119
35°	210	209	199	184	179	132
45°	161	158	144	132	127	124
55°	112	109	99	87	82	101
65°	67	63	57	58	48	66
75°	27	25	23	22	24	29
85°	4	4	4	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	325.5	325.5	325.5	325.5	325.5
2.5°	323.2	323.2	323.2	322.9	322.9
5°	319.9	319.5	319.5	319.1	319.1
7.5°	317.2	316.8	316.5	316.1	315.3
10°	313.5	313.5	313.1	311.2	310.8
12.5°	307.4	307.1	305.6	302.9	302.2
15°	299.2	299.2	296.1	293.1	292.0
17.5°	290.1	289.7	286.0	283.0	281.5
20°	280.3	279.6	275.8	270.9	268.3
22.5°	269.4	269.4	264.9	258.5	255.9
25°	259.3	257.8	253.6	244.6	237.8
27.5°	247.6	245.3	240.8	228.0	220.1
30°	234.8	233.7	227.3	210.7	204.7
32.5°	222.8	220.9	214.1	196.8	191.9
35°	210.4	208.8	198.7	183.6	179.1
37.5°	197.9	196.1	183.3	171.2	165.6
40°	185.5	183.3	169.3	158.4	152.4
42.5°	173.8	170.8	157.3	145.6	138.9
45°	161.4	158.0	144.5	132.5	127.2
47.5°	149.0	146.0	133.6	121.2	115.1
50°	135.8	133.2	121.9	109.5	103.1
52.5°	124.9	120.8	109.9	97.5	92.2
55°	112.1	108.8	98.6	86.9	82.4
57.5°	100.5	97.1	87.7	76.8	73.0
60°	89.6	84.7	76.8	67.4	64.3
62.5°	77.5	73.8	67.0	59.1	62.8
65°	66.6	62.8	56.8	57.9	48.2
67.5°	54.6	52.7	47.4	42.1	40.6
70°	44.4	42.1	40.3	34.6	33.1
72.5°	35.4	33.1	30.5	27.5	26.3
75°	26.7	24.8	23.3	22.2	24.5
77.5°	18.4	17.7	16.6	15.4	15.1
80°	12.0	11.7	11.3	10.9	10.5
82.5°	7.1	7.1	7.1	7.1	7.1
85°	3.8	4.1	4.5	4.9	5.3
87.5°	2.3	2.3	2.6	3.0	3.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)