

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: P558628

Luminaire Tested: FSR-12-1-LD4-1HI-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558628  
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-LD4-1HI-50-UNV-93-86-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

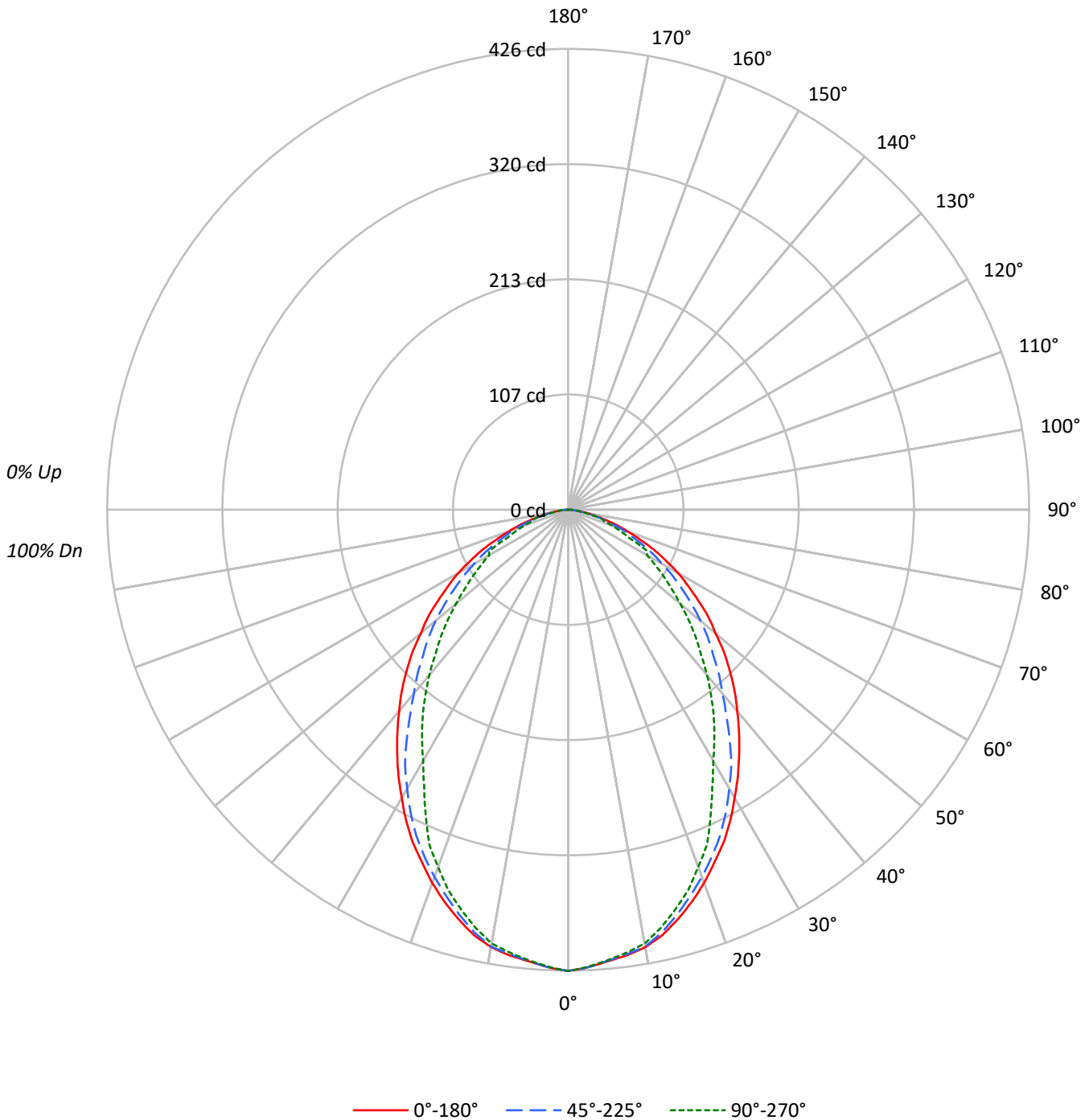
Lumens per Lamp: N/A  
Luminaire Lumens: 837.0 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 10.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4590	4590	4590
5°	4527	4522	4517
10°	4488	4482	4450
15°	4367	4323	4262
20°	4206	4139	4025
25°	4033	3945	3700
30°	3823	3700	3332
35°	3620	3420	3083
40°	3414	3117	2805
45°	3220	2882	2536
50°	2979	2674	2262
55°	2757	2423	2025
60°	2525	2166	1815
65°	2221	1895	1607
70°	1832	1659	1366
75°	1456	1273	1331
80°	979	917	855
85°	605	729	852

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3220 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.7	4.7
10°-20°	108.9	13.0
20°-30°	150.8	18.0
30°-40°	160.8	19.2
40°-50°	146.7	17.5
50°-60°	114.9	13.7
60°-70°	74.9	8.9
70°-80°	33.2	4.0
80°-90°	7.1	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°	299.4	35.8
0°-40°	460.2	55.0
0°-60°	721.8	86.2
0°-90°	837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	837.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	426	426	426	426	426	
5°	419	418	418	418	418	40
15°	392	392	388	384	382	110
25°	340	338	332	320	312	156
35°	276	274	260	240	235	172
45°	212	207	189	174	167	163
55°	147	142	129	114	108	132
65°	87	82	74	76	63	86
75°	35	32	31	29	32	38
85°	5	5	6	6	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	426.4	426.4	426.4	426.4	426.4
2.5°	423.4	423.4	423.4	422.9	422.9
5°	419.0	418.5	418.5	418.0	418.0
7.5°	415.5	415.0	414.5	414.0	413.0
10°	410.6	410.6	410.1	407.6	407.1
12.5°	402.7	402.2	400.2	396.8	395.8
15°	391.9	391.9	387.9	384.0	382.5
17.5°	380.0	379.5	374.6	370.7	368.7
20°	367.2	366.2	361.3	354.9	351.4
22.5°	352.9	352.9	347.0	338.6	335.2
25°	339.6	337.6	332.2	320.4	311.5
27.5°	324.3	321.4	315.5	298.7	288.3
30°	307.6	306.1	297.7	276.0	268.1
32.5°	291.8	289.3	280.5	257.8	251.4
35°	275.5	273.6	260.3	240.5	234.6
37.5°	259.3	256.8	240.0	224.3	216.9
40°	243.0	240.0	221.8	207.5	199.6
42.5°	227.7	223.8	206.0	190.8	181.9
45°	211.5	207.0	189.3	173.5	166.6
47.5°	195.2	191.2	175.0	158.7	150.8
50°	177.9	174.5	159.7	143.4	135.1
52.5°	163.6	158.2	143.9	127.7	120.8
55°	146.9	142.4	129.1	113.9	107.9
57.5°	131.6	127.2	114.8	100.6	95.6
60°	117.3	110.9	100.6	88.2	84.3
62.5°	101.5	96.6	87.7	77.4	82.3
65°	87.2	82.3	74.4	75.9	63.1
67.5°	71.5	69.0	62.1	55.2	53.2
70°	58.2	55.2	52.7	45.3	43.4
72.5°	46.3	43.4	39.9	36.0	34.5
75°	35.0	32.5	30.6	29.1	32.0
77.5°	24.2	23.2	21.7	20.2	19.7
80°	15.8	15.3	14.8	14.3	13.8
82.5°	9.4	9.4	9.4	9.4	9.4
85°	4.9	5.4	5.9	6.4	6.9
87.5°	3.0	3.0	3.5	3.9	4.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)