

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: P560740

Luminaire Tested: FSR-12-2-LD4-2STD-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560740  
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-12-2-LD4-2STD-50-UNV-93-86-EDD-90  
Description: 1X2 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**

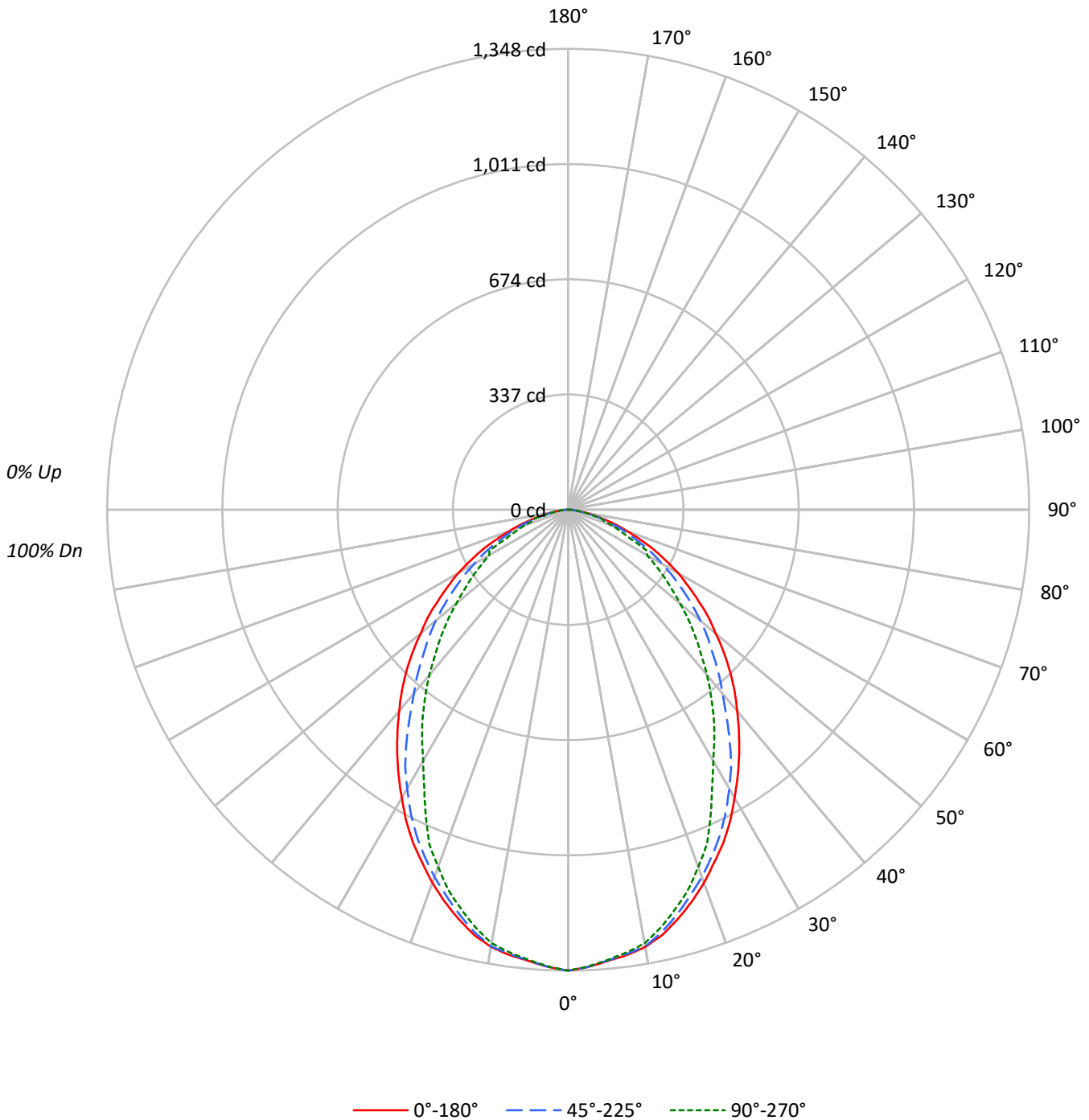
Lumens per Lamp: N/A  
Luminaire Lumens: 2647.0 lumens  
Efficiency: N/A  
Efficacy: 79.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

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

	0°	45°	90°
0°	7256	7256	7256
5°	7158	7150	7141
10°	7096	7088	7037
15°	6905	6835	6740
20°	6651	6544	6365
25°	6378	6239	5850
30°	6045	5851	5270
35°	5725	5407	4875
40°	5399	4928	4435
45°	5090	4556	4010
50°	4711	4228	3576
55°	4358	3832	3203
60°	3993	3423	2870
65°	3514	2998	2541
70°	2894	2625	2159
75°	2302	2009	2106
80°	1547	1450	1351
85°	963	1155	1346

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5090 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.5	4.7
10°-20°	344.5	13.0
20°-30°	476.9	18.0
30°-40°	508.5	19.2
40°-50°	463.9	17.5
50°-60°	363.4	13.7
60°-70°	236.9	8.9
70°-80°	104.9	4.0
80°-90°	22.5	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°	946.9	35.8
0°-40°	1455.3	55.0
0°-60°	2282.7	86.2
0°-90°	2647.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2647.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1348	1348	1348	1348	1348	
5°	1325	1323	1323	1322	1322	126
15°	1239	1239	1227	1214	1210	348
25°	1074	1068	1051	1013	985	493
35°	871	865	823	761	742	545
45°	669	655	599	549	527	515
55°	464	450	408	360	341	417
65°	276	260	235	240	200	272
75°	111	103	97	92	101	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1348.3	1348.3	1348.3	1348.3	1348.3
2.5°	1339.0	1339.0	1339.0	1337.4	1337.4
5°	1325.0	1323.4	1323.4	1321.8	1321.8
7.5°	1314.1	1312.5	1310.9	1309.4	1306.3
10°	1298.5	1298.5	1296.9	1289.1	1287.6
12.5°	1273.5	1272.0	1265.7	1254.8	1251.7
15°	1239.2	1239.2	1226.8	1214.3	1209.6
17.5°	1201.8	1200.3	1184.7	1172.2	1166.0
20°	1161.3	1158.2	1142.6	1122.3	1111.4
22.5°	1116.1	1116.1	1097.4	1070.9	1060.0
25°	1074.0	1067.8	1050.6	1013.2	985.2
27.5°	1025.7	1016.3	997.6	944.6	911.9
30°	972.7	968.0	941.5	872.9	848.0
32.5°	922.8	915.0	886.9	815.2	795.0
35°	871.4	865.1	823.0	760.7	742.0
37.5°	819.9	812.1	759.1	709.2	685.9
40°	768.5	759.1	701.5	656.2	631.3
42.5°	720.2	707.7	651.6	603.2	575.2
45°	668.7	654.7	598.6	548.7	526.9
47.5°	617.3	604.8	553.4	501.9	477.0
50°	562.7	551.8	505.0	453.6	427.1
52.5°	517.5	500.4	455.2	403.7	381.9
55°	464.5	450.5	408.4	360.1	341.4
57.5°	416.2	402.2	363.2	318.0	302.4
60°	371.0	350.7	318.0	279.0	266.6
62.5°	321.1	305.5	277.5	244.7	260.3
65°	275.9	260.3	235.4	240.1	199.5
67.5°	226.0	218.2	196.4	174.6	168.3
70°	183.9	174.6	166.8	143.4	137.2
72.5°	146.5	137.2	126.3	113.8	109.1
75°	110.7	102.9	96.6	92.0	101.3
77.5°	76.4	73.3	68.6	63.9	62.4
80°	49.9	48.3	46.8	45.2	43.6
82.5°	29.6	29.6	29.6	29.6	29.6
85°	15.6	17.1	18.7	20.3	21.8
87.5°	9.4	9.4	10.9	12.5	14.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)