

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: P561101

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561101  
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-12-4-LD4-1LO-50-UNV-81-96-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

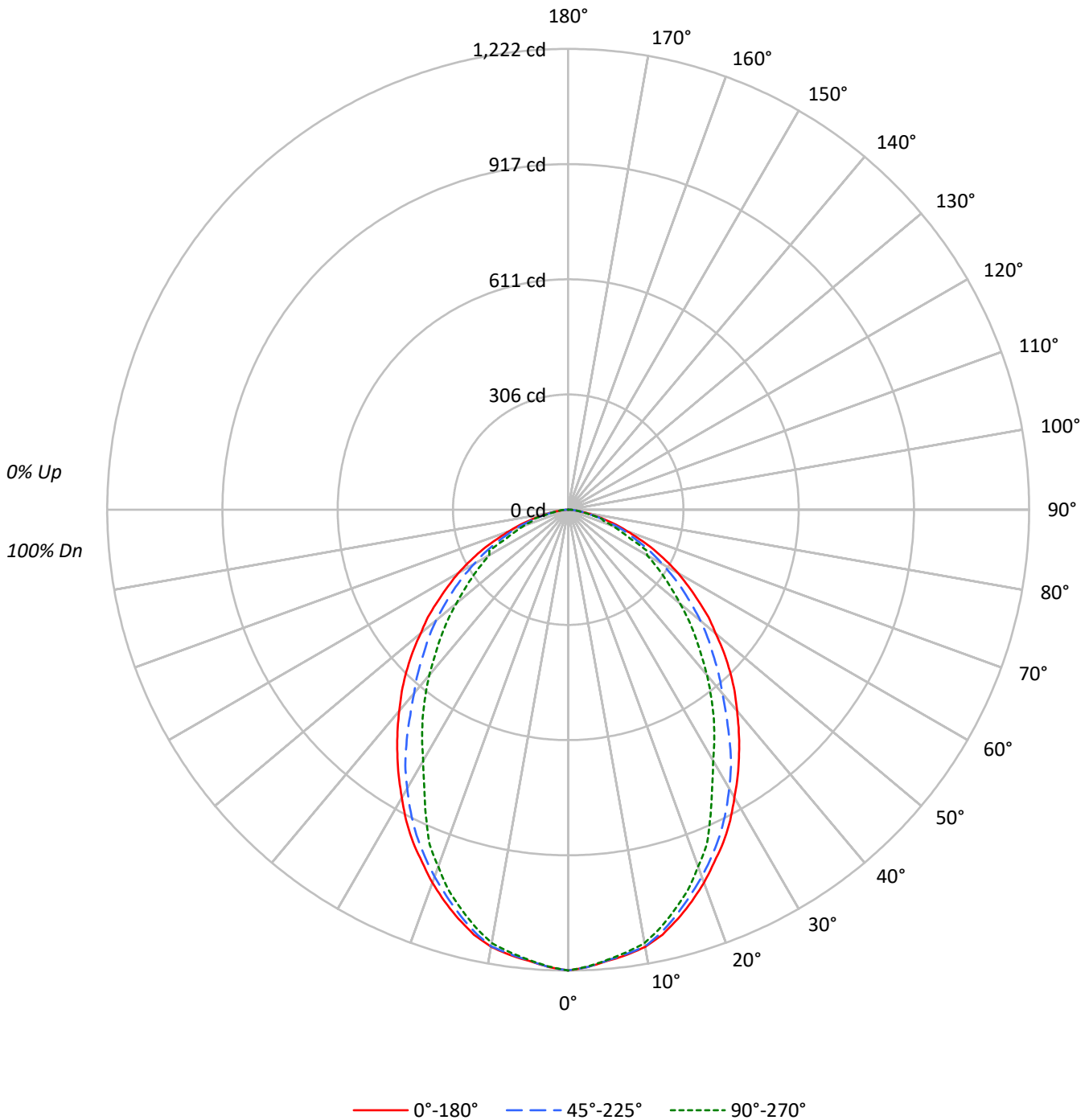
Lumens per Lamp: N/A  
Luminaire Lumens: 2399.0 lumens  
Efficiency: N/A  
Efficacy: 102.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	3288	3288	3288
5°	3244	3240	3236
10°	3216	3212	3189
15°	3129	3097	3054
20°	3014	2965	2885
25°	2890	2827	2651
30°	2739	2651	2388
35°	2594	2450	2209
40°	2447	2233	2010
45°	2307	2065	1817
50°	2135	1916	1621
55°	1975	1736	1452
60°	1809	1551	1300
65°	1592	1358	1151
70°	1312	1190	978
75°	1043	911	954
80°	700	657	614
85°	435	525	611

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2307 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.8	4.7
10°-20°	312.2	13.0
20°-30°	432.2	18.0
30°-40°	460.9	19.2
40°-50°	420.4	17.5
50°-60°	329.4	13.7
60°-70°	214.7	8.9
70°-80°	95.1	4.0
80°-90°	20.4	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°	858.1	35.8
0°-40°	1319.0	55.0
0°-60°	2068.8	86.2
0°-90°	2399.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2399.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1222	1222	1222	1222	1222	
5°	1201	1199	1199	1198	1198	114
15°	1123	1123	1112	1100	1096	316
25°	973	968	952	918	893	447
35°	790	784	746	689	672	494
45°	606	593	542	497	478	467
55°	421	408	370	326	309	378
65°	250	236	213	218	181	246
75°	100	93	88	83	92	107
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1222.0	1222.0	1222.0	1222.0	1222.0
2.5°	1213.5	1213.5	1213.5	1212.1	1212.1
5°	1200.8	1199.4	1199.4	1198.0	1198.0
7.5°	1190.9	1189.5	1188.1	1186.7	1183.9
10°	1176.8	1176.8	1175.4	1168.3	1166.9
12.5°	1154.2	1152.8	1147.1	1137.3	1134.4
15°	1123.1	1123.1	1111.8	1100.5	1096.3
17.5°	1089.2	1087.8	1073.7	1062.4	1056.7
20°	1052.5	1049.7	1035.5	1017.2	1007.3
22.5°	1011.5	1011.5	994.6	970.6	960.7
25°	973.4	967.7	952.2	918.3	892.9
27.5°	929.6	921.1	904.2	856.1	826.5
30°	881.5	877.3	853.3	791.1	768.5
32.5°	836.3	829.3	803.8	738.9	720.5
35°	789.7	784.1	745.9	689.4	672.5
37.5°	743.1	736.0	688.0	642.8	621.6
40°	696.5	688.0	635.7	594.8	572.2
42.5°	652.7	641.4	590.5	546.7	521.3
45°	606.1	593.4	542.5	497.3	477.5
47.5°	559.4	548.1	501.5	454.9	432.3
50°	510.0	500.1	457.7	411.1	387.1
52.5°	469.0	453.5	412.5	365.9	346.1
55°	421.0	408.3	370.1	326.3	309.4
57.5°	377.2	364.5	329.2	288.2	274.1
60°	336.2	317.9	288.2	252.9	241.6
62.5°	291.0	276.9	251.5	221.8	235.9
65°	250.1	235.9	213.3	217.6	180.8
67.5°	204.8	197.8	178.0	158.2	152.6
70°	166.7	158.2	151.2	130.0	124.3
72.5°	132.8	124.3	114.4	103.1	98.9
75°	100.3	93.2	87.6	83.4	91.8
77.5°	69.2	66.4	62.2	57.9	56.5
80°	45.2	43.8	42.4	41.0	39.6
82.5°	26.8	26.8	26.8	26.8	26.8
85°	14.1	15.5	17.0	18.4	19.8
87.5°	8.5	8.5	9.9	11.3	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)