

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: P563806

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563806  
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-24-4-LD4-4HI-50-UNV-82-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

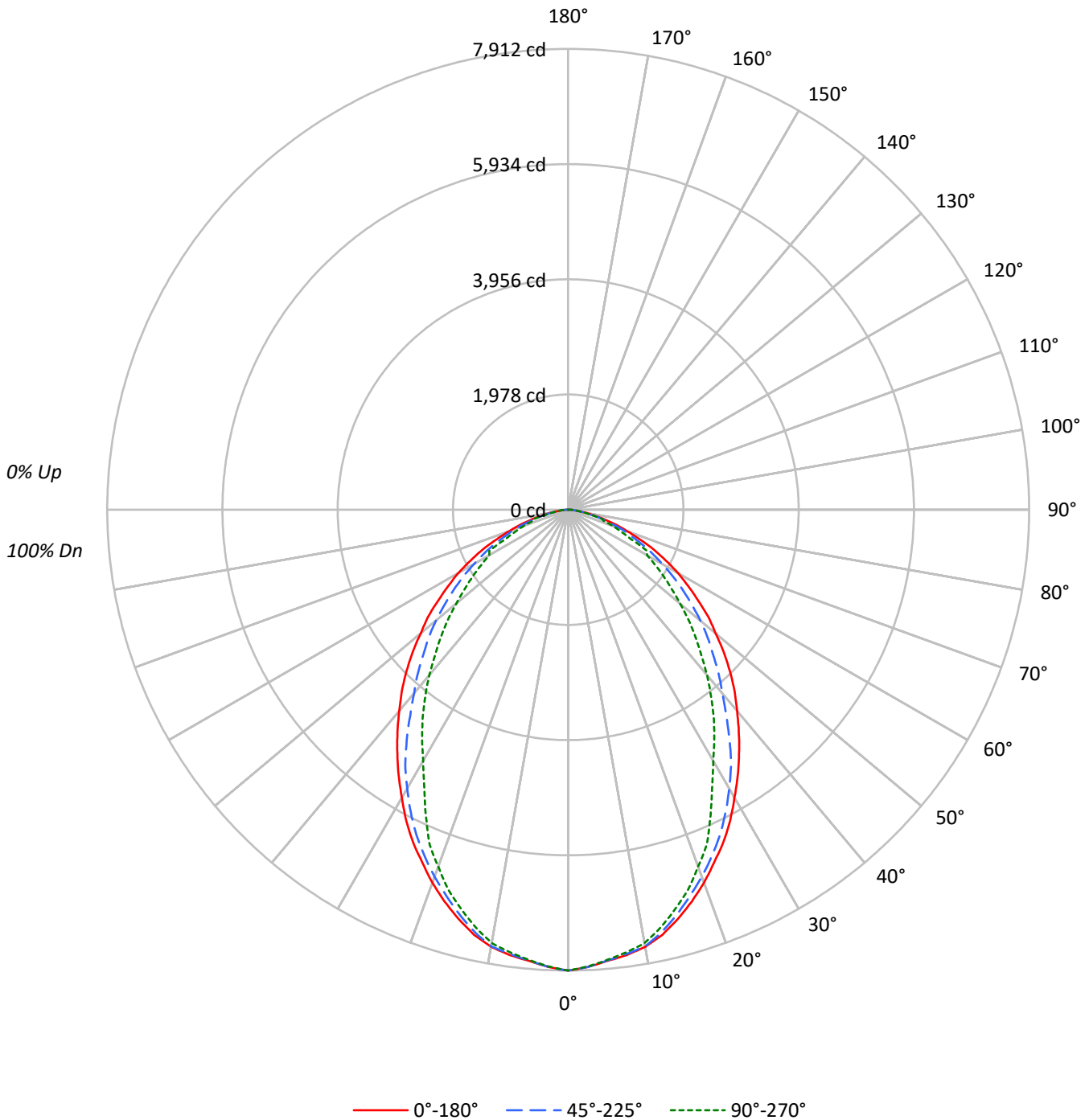
Lumens per Lamp: N/A  
Luminaire Lumens: 15533.0 lumens  
Efficiency: N/A  
Efficacy: 89.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	10646	10646	10646
5°	10501	10489	10477
10°	10410	10398	10323
15°	10130	10028	9887
20°	9757	9600	9338
25°	9356	9153	8582
30°	8868	8584	7731
35°	8399	7933	7152
40°	7921	7230	6507
45°	7467	6684	5883
50°	6912	6204	5246
55°	6394	5622	4699
60°	5858	5021	4209
65°	5154	4397	3727
70°	4246	3850	3167
75°	3376	2948	3091
80°	2268	2126	1984
85°	1413	1695	1978

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7467 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	736.5	4.7
10°-20°	2021.3	13.0
20°-30°	2798.4	18.0
30°-40°	2983.9	19.2
40°-50°	2722.2	17.5
50°-60°	2132.6	13.7
60°-70°	1389.9	8.9
70°-80°	615.8	4.0
80°-90°	132.2	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°	5556.3	35.8
0°-40°	8540.2	55.0
0°-60°	13395.0	86.2
0°-90°	15533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15533.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7912	7912	7912	7912	7912	
5°	7775	7766	7766	7757	7757	738
15°	7272	7272	7199	7126	7098	2044
25°	6302	6266	6165	5946	5781	2893
35°	5113	5077	4830	4464	4354	3197
45°	3924	3842	3512	3220	3092	3023
55°	2726	2644	2397	2113	2003	2445
65°	1619	1528	1381	1409	1171	1596
75°	649	604	567	540	595	696
85°	92	101	110	119	128	127
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7912.3	7912.3	7912.3	7912.3	7912.3
2.5°	7857.4	7857.4	7857.4	7848.3	7848.3
5°	7775.1	7765.9	7765.9	7756.8	7756.8
7.5°	7711.1	7701.9	7692.8	7683.6	7665.3
10°	7619.6	7619.6	7610.4	7564.7	7555.6
12.5°	7473.2	7464.1	7427.5	7363.5	7345.2
15°	7272.0	7272.0	7198.8	7125.6	7098.2
17.5°	7052.5	7043.3	6951.8	6878.7	6842.1
20°	6814.6	6796.3	6704.9	6586.0	6521.9
22.5°	6549.4	6549.4	6439.6	6284.1	6220.1
25°	6302.4	6265.8	6165.2	5945.7	5781.0
27.5°	6018.8	5964.0	5854.2	5543.2	5351.1
30°	5707.8	5680.4	5524.9	5122.4	4976.1
32.5°	5415.1	5369.4	5204.7	4784.0	4665.1
35°	5113.3	5076.7	4829.7	4463.8	4354.1
37.5°	4811.4	4765.7	4454.7	4162.0	4024.8
40°	4509.6	4454.7	4116.2	3851.0	3704.6
42.5°	4226.0	4152.8	3823.5	3540.0	3375.3
45°	3924.1	3841.8	3512.5	3219.8	3091.7
47.5°	3622.3	3549.1	3247.2	2945.4	2799.0
50°	3302.1	3238.1	2963.7	2661.8	2506.3
52.5°	3036.9	2936.2	2671.0	2369.1	2241.1
55°	2725.9	2643.5	2396.6	2113.0	2003.2
57.5°	2442.3	2360.0	2131.3	1866.0	1774.6
60°	2177.0	2058.1	1866.0	1637.3	1564.2
62.5°	1884.3	1792.8	1628.2	1436.1	1527.6
65°	1619.0	1527.6	1381.2	1408.7	1170.8
67.5°	1326.3	1280.6	1152.5	1024.5	987.9
70°	1079.4	1024.5	978.7	841.5	805.0
72.5°	859.8	805.0	740.9	667.7	640.3
75°	649.4	603.7	567.1	539.7	594.6
77.5°	448.2	429.9	402.5	375.0	365.9
80°	292.7	283.6	274.4	265.3	256.1
82.5°	173.8	173.8	173.8	173.8	173.8
85°	91.5	100.6	109.8	118.9	128.1
87.5°	54.9	54.9	64.0	73.2	82.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)