

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: P563873

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-93-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563873  
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-LD4-4LO-35-UNV-93-84-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

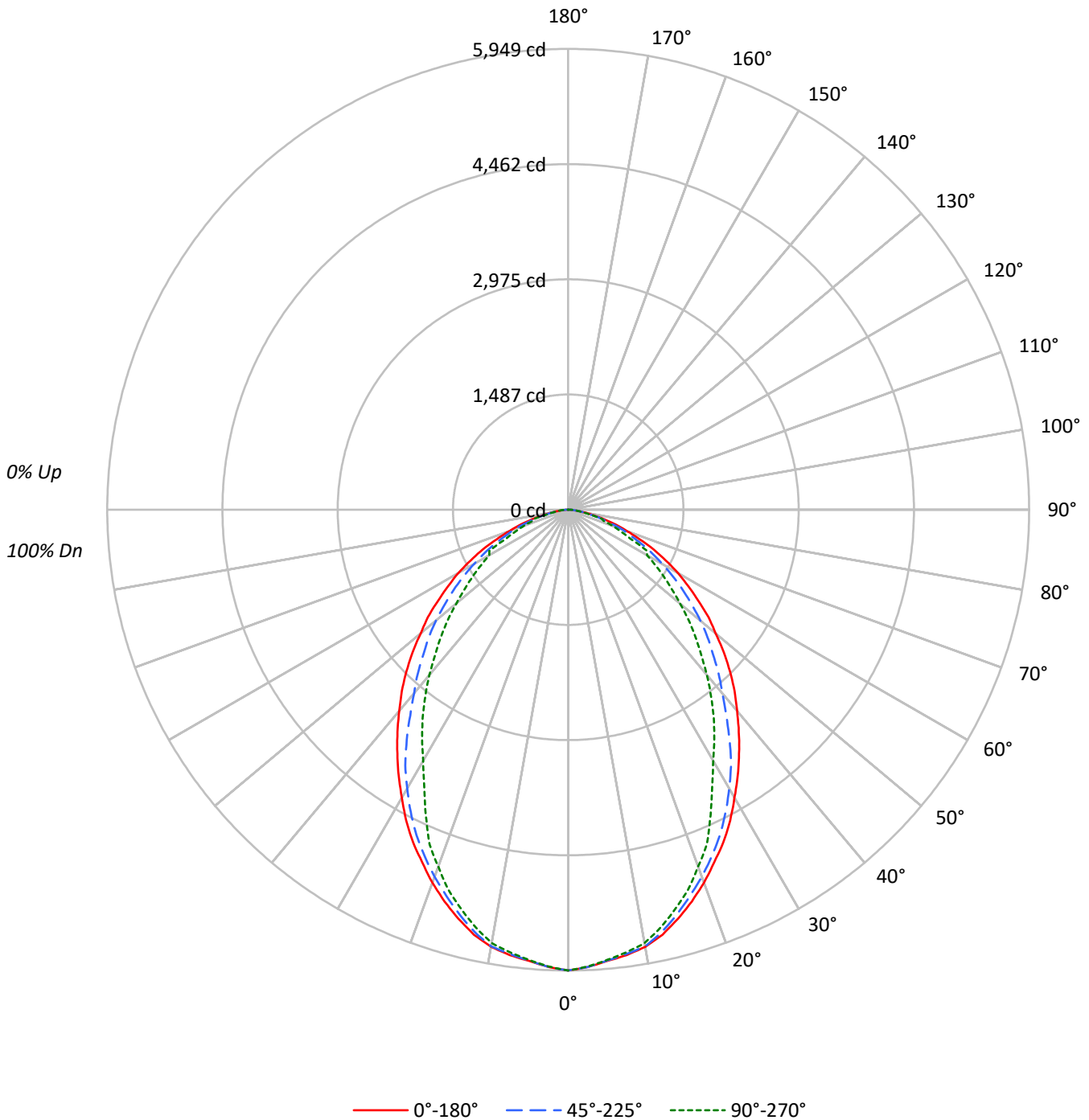
Lumens per Lamp: N/A  
Luminaire Lumens: 11679.0 lumens  
Efficiency: N/A  
Efficacy: 124.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8004	8004	8004
5°	7896	7886	7877
10°	7827	7818	7762
15°	7616	7540	7434
20°	7336	7218	7021
25°	7035	6882	6453
30°	6668	6454	5813
35°	6315	5965	5377
40°	5955	5436	4892
45°	5614	5025	4423
50°	5197	4664	3945
55°	4808	4227	3533
60°	4405	3775	3165
65°	3876	3306	2803
70°	3193	2895	2381
75°	2538	2217	2324
80°	1705	1598	1492
85°	1062	1274	1487

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5614 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	553.8	4.7
10°-20°	1519.8	13.0
20°-30°	2104.1	18.0
30°-40°	2243.6	19.2
40°-50°	2046.8	17.5
50°-60°	1603.5	13.7
60°-70°	1045.1	8.9
70°-80°	463.0	4.0
80°-90°	99.4	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°	4177.7	35.8
0°-40°	6421.2	55.0
0°-60°	10071.5	86.2
0°-90°	11679.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11679.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5949	5949	5949	5949	5949	
5°	5846	5839	5839	5832	5832	555
15°	5468	5468	5413	5358	5337	1537
25°	4739	4711	4636	4470	4347	2176
35°	3845	3817	3631	3356	3274	2404
45°	2950	2889	2641	2421	2325	2273
55°	2050	1988	1802	1589	1506	1838
65°	1217	1149	1038	1059	880	1200
75°	488	454	426	406	447	523
85°	69	76	82	89	96	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5949.1	5949.1	5949.1	5949.1	5949.1
2.5°	5907.9	5907.9	5907.9	5901.0	5901.0
5°	5846.0	5839.1	5839.1	5832.2	5832.2
7.5°	5797.8	5790.9	5784.1	5777.2	5763.4
10°	5729.0	5729.0	5722.2	5687.8	5680.9
12.5°	5619.0	5612.1	5584.6	5536.5	5522.7
15°	5467.7	5467.7	5412.7	5357.7	5337.0
17.5°	5302.6	5295.8	5227.0	5172.0	5144.4
20°	5123.8	5110.1	5041.3	4951.9	4903.7
22.5°	4924.4	4924.4	4841.8	4724.9	4676.8
25°	4738.7	4711.2	4635.5	4470.4	4346.6
27.5°	4525.5	4484.2	4401.7	4167.8	4023.4
30°	4291.6	4271.0	4154.1	3851.5	3741.4
32.5°	4071.5	4037.2	3913.4	3597.0	3507.6
35°	3844.6	3817.1	3631.4	3356.3	3273.7
37.5°	3617.6	3583.2	3349.4	3129.3	3026.1
40°	3390.7	3349.4	3094.9	2895.5	2785.4
42.5°	3177.5	3122.4	2874.8	2661.6	2537.8
45°	2950.5	2888.6	2641.0	2420.9	2324.6
47.5°	2723.5	2668.5	2441.5	2214.6	2104.5
50°	2482.8	2434.7	2228.3	2001.4	1884.5
52.5°	2283.4	2207.7	2008.3	1781.3	1685.0
55°	2049.5	1987.6	1801.9	1588.7	1506.2
57.5°	1836.3	1774.4	1602.5	1403.0	1334.3
60°	1636.9	1547.5	1403.0	1231.1	1176.1
62.5°	1416.8	1348.0	1224.2	1079.8	1148.6
65°	1217.3	1148.6	1038.5	1059.2	880.3
67.5°	997.3	962.9	866.6	770.3	742.8
70°	811.6	770.3	735.9	632.7	605.2
72.5°	646.5	605.2	557.1	502.1	481.4
75°	488.3	453.9	426.4	405.8	447.0
77.5°	337.0	323.2	302.6	282.0	275.1
80°	220.1	213.2	206.3	199.5	192.6
82.5°	130.7	130.7	130.7	130.7	130.7
85°	68.8	75.7	82.5	89.4	96.3
87.5°	41.3	41.3	48.1	55.0	61.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)