

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: P564003

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564003  
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-50-UNV-93-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

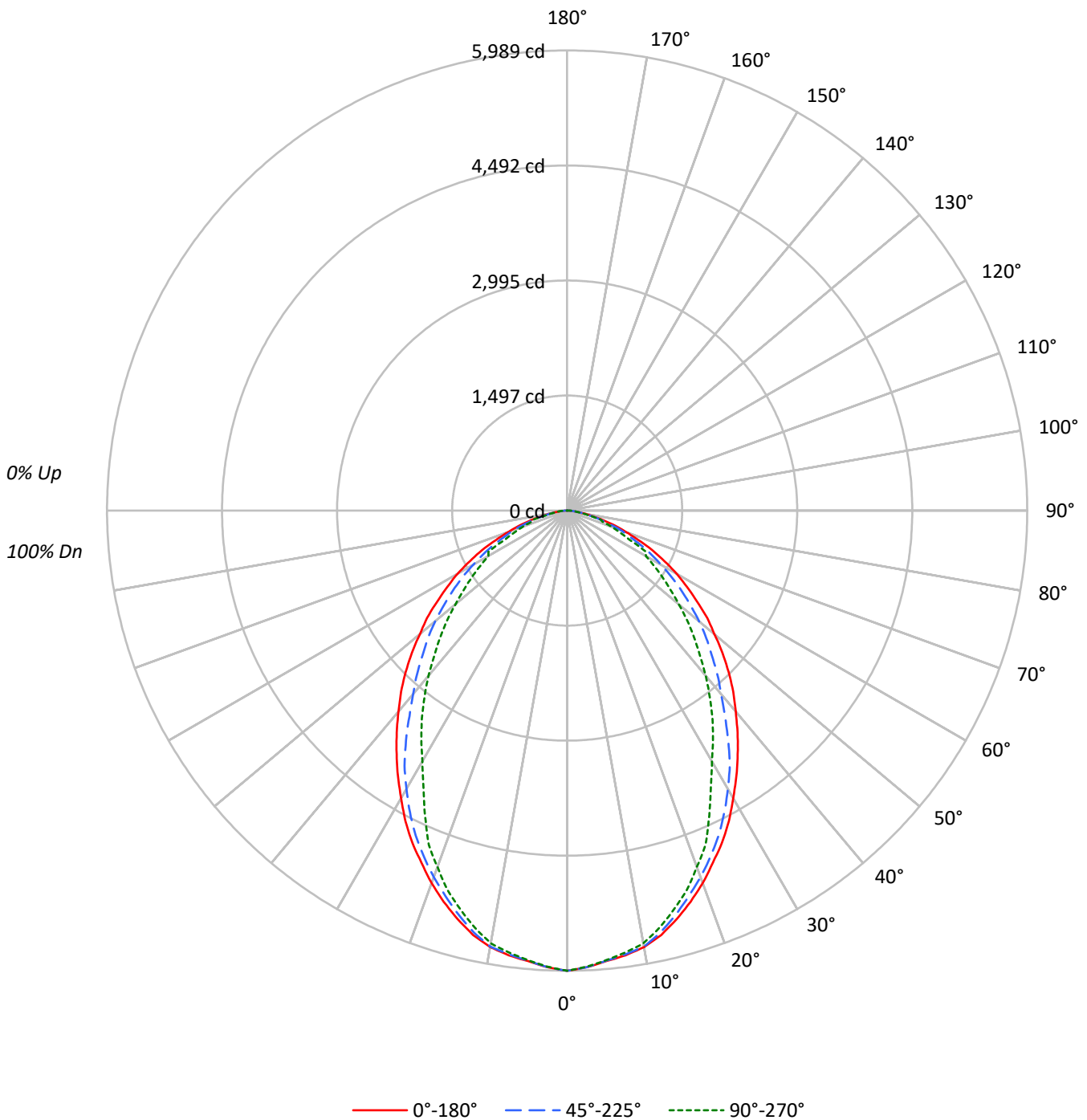
Lumens per Lamp: N/A  
Luminaire Lumens: 11758.0 lumens  
Efficiency: N/A  
Efficacy: 125.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8059	8059	8059
5°	7949	7940	7930
10°	7880	7871	7814
15°	7668	7591	7484
20°	7386	7267	7069
25°	7083	6928	6497
30°	6713	6498	5852
35°	6358	6005	5414
40°	5996	5473	4926
45°	5652	5059	4453
50°	5232	4696	3971
55°	4840	4255	3557
60°	4434	3801	3186
65°	3902	3329	2822
70°	3214	2915	2397
75°	2556	2232	2340
80°	1717	1609	1502
85°	1068	1283	1496

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5652 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	557.5	4.7
10°-20°	1530.1	13.0
20°-30°	2118.3	18.0
30°-40°	2258.7	19.2
40°-50°	2060.6	17.5
50°-60°	1614.3	13.7
60°-70°	1052.1	8.9
70°-80°	466.2	4.0
80°-90°	100.1	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°	4205.9	35.8
0°-40°	6464.7	55.0
0°-60°	10139.6	86.2
0°-90°	11758.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11758.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5989	5989	5989	5989	5989	
5°	5886	5879	5879	5872	5872	559
15°	5505	5505	5449	5394	5373	1548
25°	4771	4743	4667	4501	4376	2190
35°	3871	3843	3656	3379	3296	2420
45°	2970	2908	2659	2437	2340	2288
55°	2063	2001	1814	1600	1516	1851
65°	1226	1156	1046	1066	886	1208
75°	492	457	429	408	450	527
85°	69	76	83	90	97	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5989.4	5989.4	5989.4	5989.4	5989.4
2.5°	5947.8	5947.8	5947.8	5940.9	5940.9
5°	5885.5	5878.6	5878.6	5871.7	5871.7
7.5°	5837.0	5830.1	5823.2	5816.3	5802.4
10°	5767.8	5767.8	5760.9	5726.3	5719.3
12.5°	5657.0	5650.1	5622.4	5573.9	5560.1
15°	5504.7	5504.7	5449.3	5393.9	5373.1
17.5°	5338.5	5331.6	5262.3	5206.9	5179.2
20°	5158.5	5144.6	5075.4	4985.4	4936.9
22.5°	4957.7	4957.7	4874.6	4756.9	4708.4
25°	4770.7	4743.0	4666.9	4500.7	4376.0
27.5°	4556.1	4514.5	4431.4	4196.0	4050.6
30°	4320.7	4299.9	4182.2	3877.5	3766.7
32.5°	4099.1	4064.5	3939.8	3621.3	3531.3
35°	3870.6	3842.9	3655.9	3379.0	3295.9
37.5°	3642.1	3607.5	3372.0	3150.5	3046.6
40°	3413.6	3372.0	3115.9	2915.1	2804.3
42.5°	3198.9	3143.6	2894.3	2679.6	2555.0
45°	2970.4	2908.1	2658.9	2437.3	2340.4
47.5°	2742.0	2686.6	2458.1	2229.6	2118.8
50°	2499.6	2451.1	2243.4	2014.9	1897.2
52.5°	2298.8	2222.6	2021.8	1793.3	1696.4
55°	2063.4	2001.1	1814.1	1599.5	1516.4
57.5°	1848.7	1786.4	1613.3	1412.5	1343.3
60°	1647.9	1557.9	1412.5	1239.4	1184.0
62.5°	1426.4	1357.1	1232.5	1087.1	1156.3
65°	1225.6	1156.3	1045.5	1066.3	886.3
67.5°	1004.0	969.4	872.4	775.5	747.8
70°	817.0	775.5	740.9	637.0	609.3
72.5°	650.9	609.3	560.9	505.5	484.7
75°	491.6	457.0	429.3	408.5	450.1
77.5°	339.3	325.4	304.7	283.9	277.0
80°	221.6	214.6	207.7	200.8	193.9
82.5°	131.6	131.6	131.6	131.6	131.6
85°	69.2	76.2	83.1	90.0	96.9
87.5°	41.5	41.5	48.5	55.4	62.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)