

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: P563941

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563941
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-40-UNV-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11431.0 lumens
Efficiency: N/A
Efficacy: 122.1 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

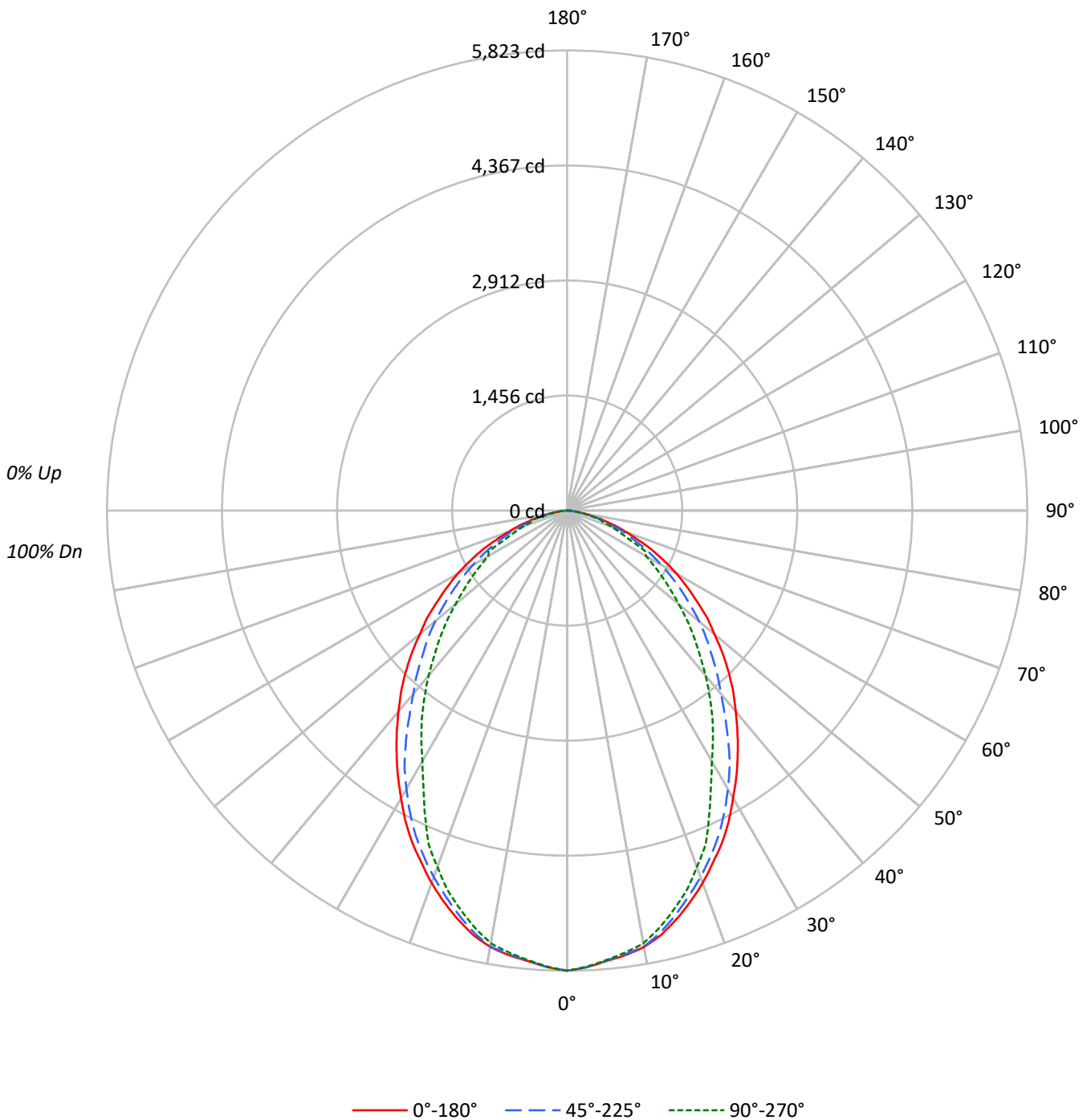
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563941

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-93-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P563941

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-93-86-EDD

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												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°	7835	7835	7835
5°	7728	7719	7710
10°	7661	7652	7597
15°	7455	7379	7276
20°	7181	7065	6872
25°	6885	6736	6316
30°	6526	6317	5689
35°	6181	5838	5263
40°	5829	5321	4789
45°	5495	4919	4329
50°	5087	4565	3861
55°	4706	4137	3458
60°	4311	3695	3098
65°	3793	3236	2743
70°	3125	2834	2330
75°	2484	2170	2275
80°	1669	1564	1461
85°	1039	1247	1454

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5495 cd/sqm



TEST NUMBER: P563941

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-93-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	542.0	4.7
10°-20°	1487.5	13.0
20°-30°	2059.4	18.0
30°-40°	2195.9	19.2
40°-50°	2003.3	17.5
50°-60°	1569.4	13.7
60°-70°	1022.9	8.9
70°-80°	453.2	4.0
80°-90°	97.3	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°	4089.0	35.8
0°-40°	6284.9	55.0
0°-60°	9857.6	86.2
0°-90°	11431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5823	5823	5823	5823	5823	
5°	5722	5715	5715	5708	5708	543
15°	5352	5352	5298	5244	5224	1504
25°	4638	4611	4537	4376	4254	2129
35°	3763	3736	3554	3285	3204	2353
45°	2888	2827	2585	2370	2275	2224
55°	2006	1945	1764	1555	1474	1799
65°	1192	1124	1016	1037	862	1174
75°	478	444	417	397	438	512
85°	67	74	81	88	94	93
90°	0	0	0	0	0	



TEST NUMBER: P563941

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-93-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5822.8	5822.8	5822.8	5822.8	5822.8
2.5°	5782.4	5782.4	5782.4	5775.7	5775.7
5°	5721.8	5715.1	5715.1	5708.4	5708.4
7.5°	5674.7	5668.0	5661.2	5654.5	5641.0
10°	5607.4	5607.4	5600.7	5567.0	5560.3
12.5°	5499.7	5493.0	5466.0	5418.9	5405.4
15°	5351.6	5351.6	5297.7	5243.9	5223.7
17.5°	5190.0	5183.3	5116.0	5062.1	5035.2
20°	5015.0	5001.5	4934.2	4846.7	4799.6
22.5°	4819.8	4819.8	4739.0	4624.6	4577.5
25°	4638.0	4611.1	4537.1	4375.5	4254.3
27.5°	4429.4	4389.0	4308.2	4079.3	3938.0
30°	4200.5	4180.3	4065.9	3769.7	3662.0
32.5°	3985.1	3951.4	3830.3	3520.6	3433.1
35°	3762.9	3736.0	3554.3	3285.0	3204.2
37.5°	3540.8	3507.1	3278.3	3062.9	2961.9
40°	3318.7	3278.3	3029.2	2834.0	2726.3
42.5°	3110.0	3056.1	2813.8	2605.1	2483.9
45°	2887.8	2827.3	2584.9	2369.5	2275.3
47.5°	2665.7	2611.8	2389.7	2167.6	2059.9
50°	2430.1	2383.0	2181.0	1958.9	1844.4
52.5°	2234.9	2160.8	1965.6	1743.5	1649.2
55°	2006.0	1945.4	1763.7	1555.0	1474.2
57.5°	1797.3	1736.7	1568.5	1373.2	1305.9
60°	1602.1	1514.6	1373.2	1204.9	1151.1
62.5°	1386.7	1319.4	1198.2	1056.9	1124.2
65°	1191.5	1124.2	1016.5	1036.7	861.6
67.5°	976.1	942.4	848.2	753.9	727.0
70°	794.3	753.9	720.3	619.3	592.4
72.5°	632.8	592.4	545.3	491.4	471.2
75°	477.9	444.3	417.4	397.2	437.6
77.5°	329.8	316.4	296.2	276.0	269.3
80°	215.4	208.7	201.9	195.2	188.5
82.5°	127.9	127.9	127.9	127.9	127.9
85°	67.3	74.0	80.8	87.5	94.2
87.5°	40.4	40.4	47.1	53.9	60.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)