

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: P564143

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564143
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-LD4-4STD-40-UNV-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15097.0 lumens
Efficiency: N/A
Efficacy: 113.3 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

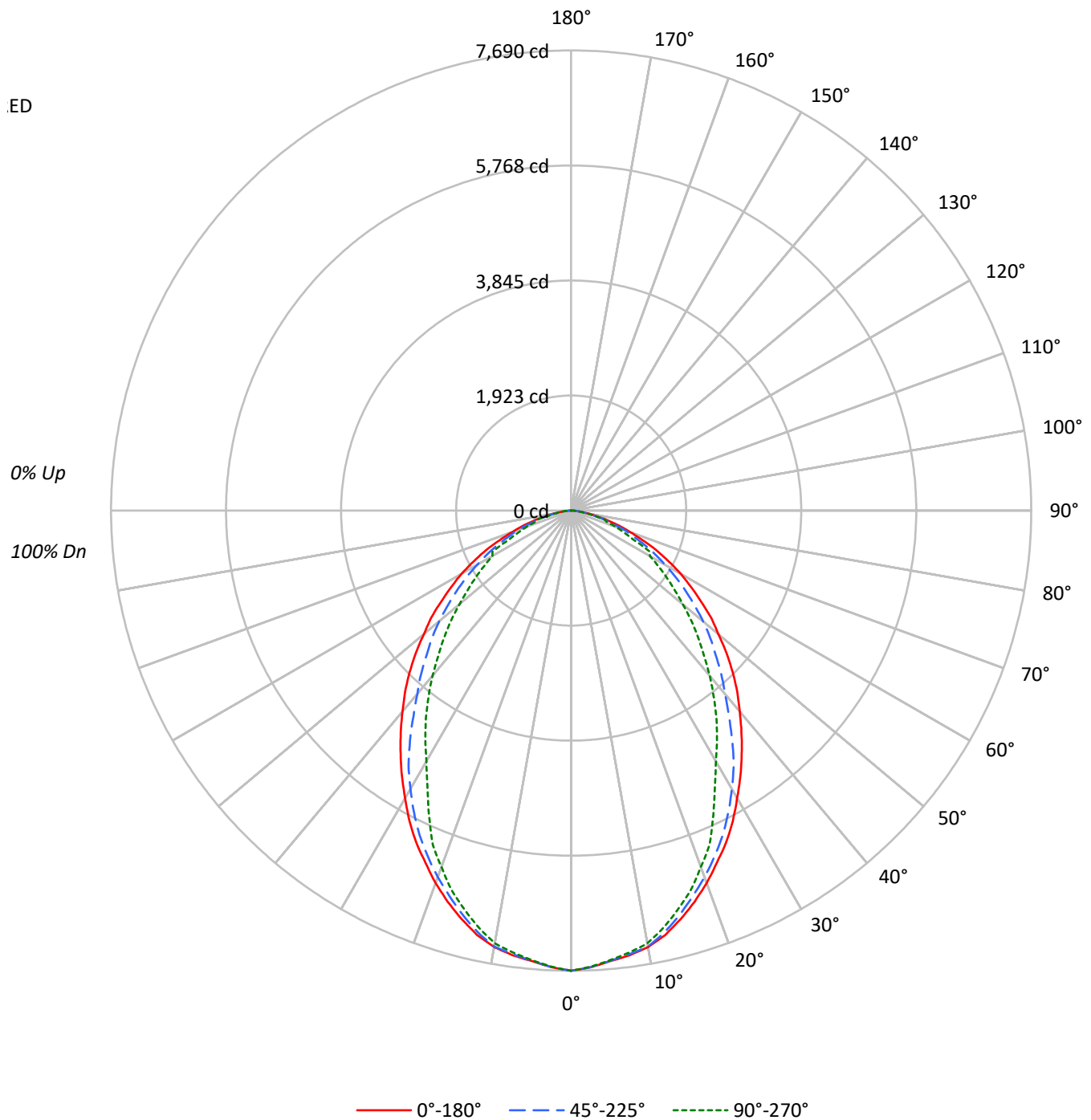
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10347	10347	10347
5°	10207	10195	10183
10°	10118	10106	10033
15°	9845	9746	9610
20°	9484	9331	9076
25°	9094	8896	8341
30°	8619	8343	7514
35°	8163	7710	6951
40°	7698	7027	6324
45°	7257	6496	5718
50°	6718	6029	5099
55°	6215	5464	4567
60°	5694	4880	4091
65°	5010	4274	3623
70°	4127	3742	3078
75°	3281	2865	3004
80°	2204	2066	1929
85°	1372	1647	1922

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7257 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	715.9	4.7
10°-20°	1964.6	13.0
20°-30°	2719.9	18.0
30°-40°	2900.2	19.2
40°-50°	2645.8	17.5
50°-60°	2072.8	13.7
60°-70°	1350.9	8.9
70°-80°	598.5	4.0
80°-90°	128.5	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°	5400.3	35.8
0°-40°	8300.5	55.0
0°-60°	13019.0	86.2
0°-90°	15097.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15097.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7690	7690	7690	7690	7690	
5°	7557	7548	7548	7539	7539	717
15°	7068	7068	6997	6926	6899	1987
25°	6126	6090	5992	5779	5619	2812
35°	4970	4934	4694	4338	4232	3107
45°	3814	3734	3414	3129	3005	2938
55°	2649	2569	2329	2054	1947	2376
65°	1574	1485	1342	1369	1138	1551
75°	631	587	551	524	578	677
85°	89	98	107	116	124	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7690.2	7690.2	7690.2	7690.2	7690.2
2.5°	7636.9	7636.9	7636.9	7628.0	7628.0
5°	7556.9	7548.0	7548.0	7539.1	7539.1
7.5°	7494.6	7485.7	7476.8	7467.9	7450.2
10°	7405.7	7405.7	7396.8	7352.4	7343.5
12.5°	7263.5	7254.6	7219.0	7156.8	7139.0
15°	7067.9	7067.9	6996.8	6925.6	6899.0
17.5°	6854.5	6845.6	6756.7	6685.6	6650.0
20°	6623.4	6605.6	6516.7	6401.1	6338.9
22.5°	6365.5	6365.5	6258.9	6107.7	6045.5
25°	6125.5	6089.9	5992.1	5778.8	5618.7
27.5°	5849.9	5796.6	5689.9	5387.6	5200.9
30°	5547.6	5520.9	5369.8	4978.6	4836.4
32.5°	5263.1	5218.7	5058.6	4649.7	4534.1
35°	4969.7	4934.2	4694.1	4338.5	4231.8
37.5°	4676.4	4631.9	4329.6	4045.1	3911.8
40°	4383.0	4329.6	4000.7	3742.9	3600.6
42.5°	4107.4	4036.2	3716.2	3440.6	3280.6
45°	3814.0	3734.0	3413.9	3129.4	3005.0
47.5°	3520.6	3449.5	3156.1	2862.7	2720.5
50°	3209.4	3147.2	2880.5	2587.1	2436.0
52.5°	2951.6	2853.8	2596.0	2302.6	2178.2
55°	2649.3	2569.3	2329.3	2053.7	1947.0
57.5°	2373.7	2293.7	2071.5	1813.6	1724.7
60°	2115.9	2000.3	1813.6	1591.4	1520.3
62.5°	1831.4	1742.5	1582.5	1395.8	1484.7
65°	1573.6	1484.7	1342.5	1369.1	1138.0
67.5°	1289.1	1244.7	1120.2	995.7	960.2
70°	1049.1	995.7	951.3	817.9	782.4
72.5°	835.7	782.4	720.1	649.0	622.3
75°	631.2	586.8	551.2	524.5	577.9
77.5°	435.6	417.8	391.2	364.5	355.6
80°	284.5	275.6	266.7	257.8	248.9
82.5°	168.9	168.9	168.9	168.9	168.9
85°	88.9	97.8	106.7	115.6	124.5
87.5°	53.3	53.3	62.2	71.1	80.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)