

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: P564137

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564137
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-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13339.0 lumens
Efficiency: N/A
Efficacy: 100.1 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

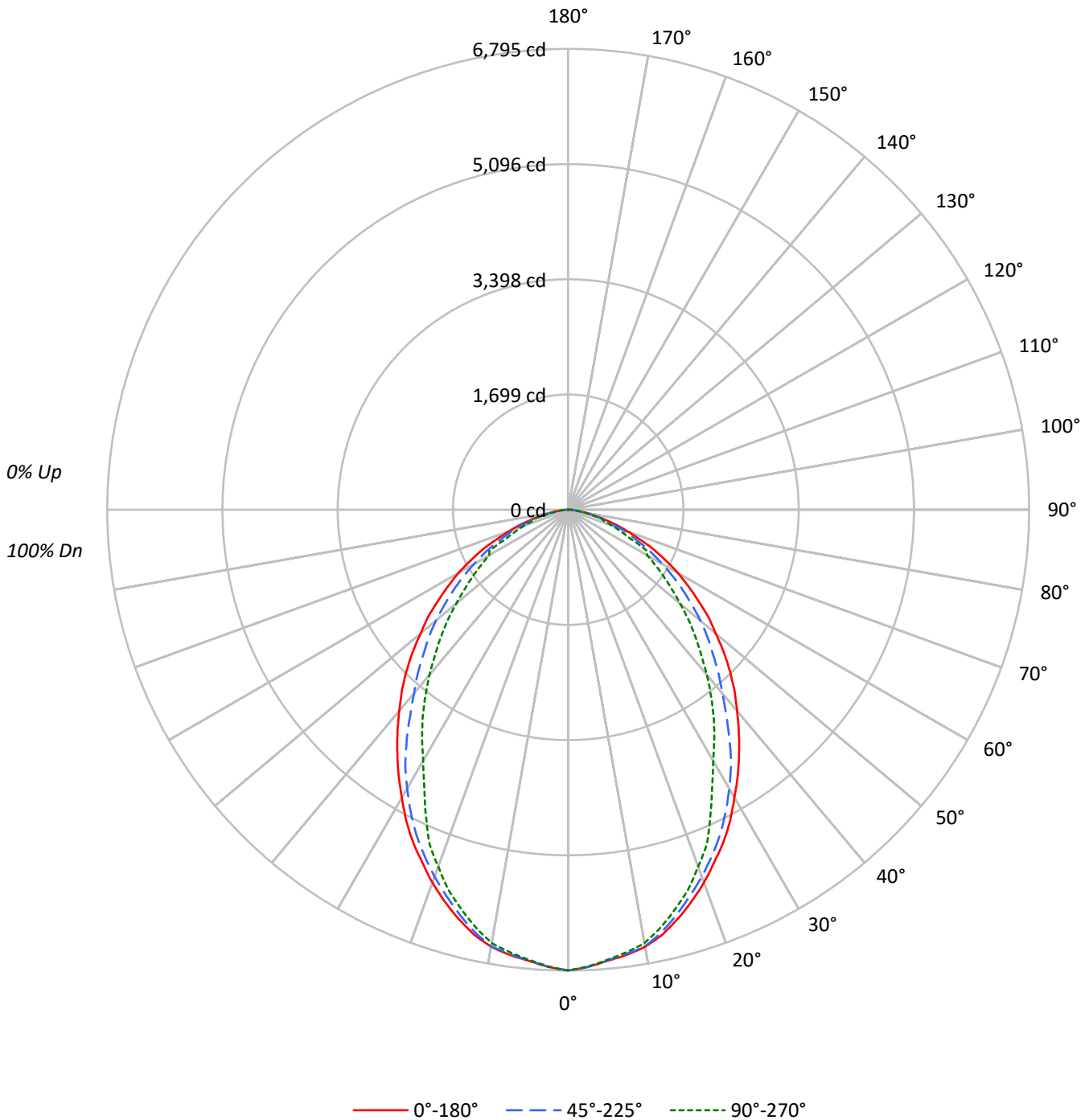
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9142	9142	9142
5°	9018	9007	8997
10°	8940	8929	8865
15°	8699	8611	8491
20°	8379	8244	8019
25°	8035	7860	7370
30°	7615	7371	6639
35°	7212	6812	6142
40°	6802	6209	5588
45°	6412	5740	5052
50°	5936	5327	4505
55°	5491	4828	4035
60°	5031	4312	3615
65°	4427	3776	3201
70°	3646	3306	2720
75°	2899	2532	2654
80°	1948	1826	1704
85°	1213	1456	1698

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6412 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	632.5	4.7
10°-20°	1735.8	13.0
20°-30°	2403.1	18.0
30°-40°	2562.4	19.2
40°-50°	2337.7	17.5
50°-60°	1831.4	13.7
60°-70°	1193.6	8.9
70°-80°	528.8	4.0
80°-90°	113.5	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°	4771.5	35.8
0°-40°	7333.9	55.0
0°-60°	11503.0	86.2
0°-90°	13339.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13339.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6795	6795	6795	6795	6795	
5°	6677	6669	6669	6661	6661	634
15°	6245	6245	6182	6119	6096	1756
25°	5412	5381	5294	5106	4964	2485
35°	4391	4360	4148	3833	3739	2745
45°	3370	3299	3016	2765	2655	2596
55°	2341	2270	2058	1814	1720	2100
65°	1390	1312	1186	1210	1006	1370
75°	558	518	487	464	511	598
85°	79	86	94	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6794.7	6794.7	6794.7	6794.7	6794.7
2.5°	6747.6	6747.6	6747.6	6739.7	6739.7
5°	6676.9	6669.0	6669.0	6661.2	6661.2
7.5°	6621.9	6614.0	6606.2	6598.3	6582.6
10°	6543.3	6543.3	6535.5	6496.2	6488.4
12.5°	6417.7	6409.8	6378.4	6323.4	6307.7
15°	6244.8	6244.8	6182.0	6119.2	6095.6
17.5°	6056.3	6048.5	5969.9	5907.1	5875.7
20°	5852.1	5836.4	5757.8	5655.7	5600.7
22.5°	5624.3	5624.3	5530.0	5396.5	5341.5
25°	5412.2	5380.8	5294.4	5105.9	4964.5
27.5°	5168.7	5121.6	5027.3	4760.2	4595.3
30°	4901.6	4878.1	4744.5	4398.9	4273.2
32.5°	4650.3	4611.0	4469.6	4108.2	4006.1
35°	4391.0	4359.6	4147.5	3833.3	3739.1
37.5°	4131.8	4092.5	3825.5	3574.1	3456.3
40°	3872.6	3825.5	3534.8	3307.0	3181.3
42.5°	3629.1	3566.2	3283.5	3039.9	2898.6
45°	3369.9	3299.2	3016.4	2765.0	2655.0
47.5°	3110.6	3047.8	2788.6	2529.4	2403.7
50°	2835.7	2780.7	2545.1	2285.8	2152.3
52.5°	2607.9	2521.5	2293.7	2034.5	1924.5
55°	2340.8	2270.1	2058.1	1814.5	1720.3
57.5°	2097.3	2026.6	1830.3	1602.5	1523.9
60°	1869.5	1767.4	1602.5	1406.1	1343.2
62.5°	1618.2	1539.6	1398.2	1233.3	1311.8
65°	1390.4	1311.8	1186.1	1209.7	1005.5
67.5°	1139.0	1099.7	989.7	879.8	848.4
70°	926.9	879.8	840.5	722.7	691.3
72.5°	738.4	691.3	636.3	573.4	549.9
75°	557.7	518.4	487.0	463.5	510.6
77.5°	384.9	369.2	345.6	322.1	314.2
80°	251.4	243.5	235.7	227.8	219.9
82.5°	149.2	149.2	149.2	149.2	149.2
85°	78.6	86.4	94.3	102.1	110.0
87.5°	47.1	47.1	55.0	62.8	70.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)