

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: P563232

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563232
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-LD4-3HI-50-UNV-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12858.0 lumens
Efficiency: N/A
Efficacy: 99.2 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

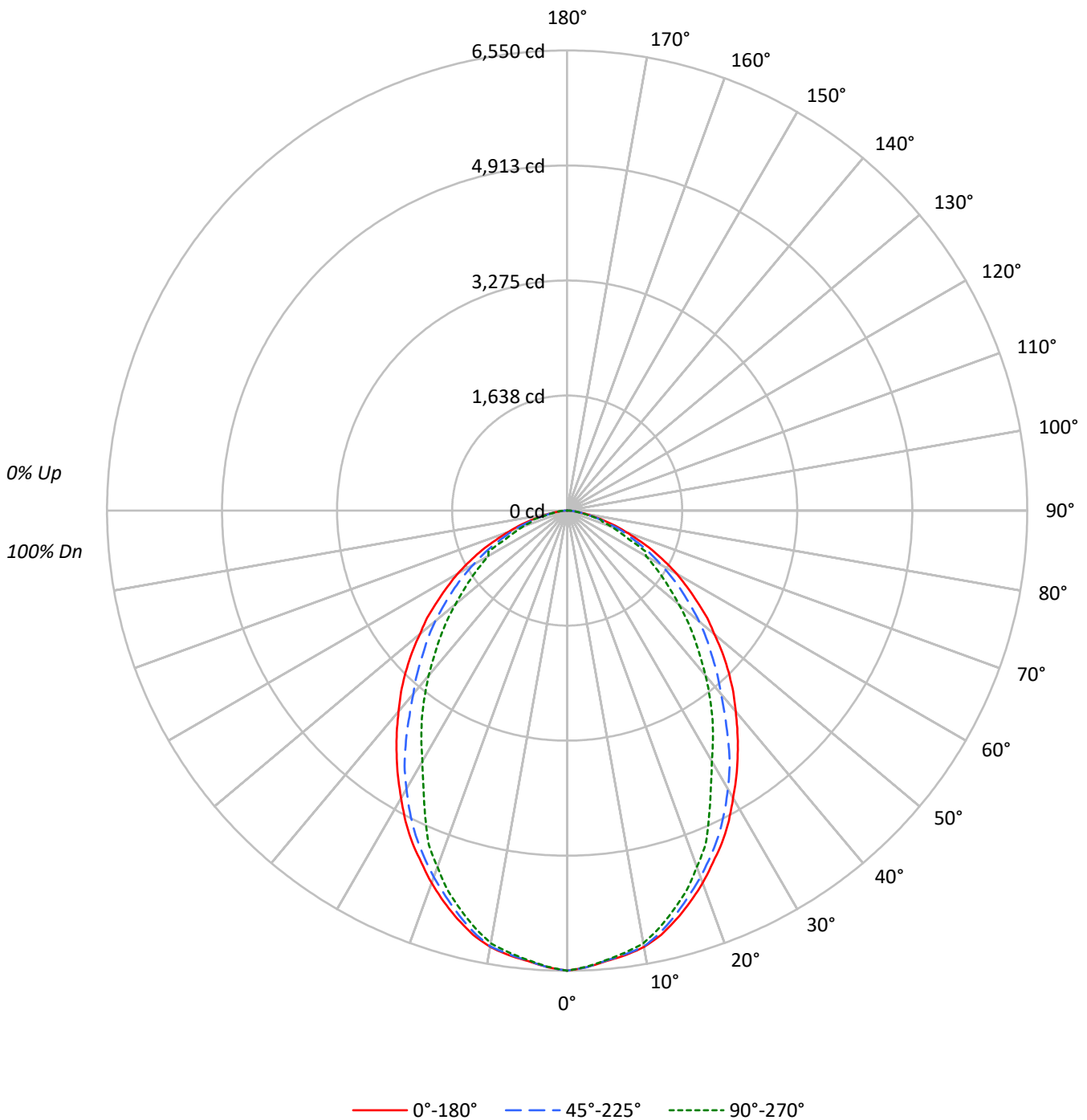
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8813	8813	8813
5°	8693	8683	8672
10°	8617	8607	8545
15°	8385	8301	8185
20°	8077	7947	7730
25°	7745	7577	7104
30°	7341	7105	6400
35°	6952	6567	5920
40°	6557	5985	5386
45°	6181	5533	4870
50°	5722	5135	4343
55°	5293	4654	3890
60°	4849	4157	3484
65°	4267	3640	3086
70°	3515	3187	2621
75°	2795	2441	2559
80°	1877	1760	1643
85°	1169	1403	1636

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6181 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	609.7	4.7
10°-20°	1673.2	13.0
20°-30°	2316.5	18.0
30°-40°	2470.0	19.2
40°-50°	2253.4	17.5
50°-60°	1765.4	13.7
60°-70°	1150.6	8.9
70°-80°	509.7	4.0
80°-90°	109.5	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°	4599.4	35.8
0°-40°	7069.5	55.0
0°-60°	11088.2	86.2
0°-90°	12858.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12858.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6550	6550	6550	6550	6550	
5°	6436	6428	6428	6421	6421	611
15°	6020	6020	5959	5898	5876	1692
25°	5217	5187	5104	4922	4785	2395
35°	4233	4202	3998	3695	3604	2646
45°	3248	3180	2908	2665	2559	2502
55°	2256	2188	1984	1749	1658	2024
65°	1340	1264	1143	1166	969	1321
75°	538	500	470	447	492	576
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6549.7	6549.7	6549.7	6549.7	6549.7
2.5°	6504.3	6504.3	6504.3	6496.7	6496.7
5°	6436.1	6428.5	6428.5	6421.0	6421.0
7.5°	6383.1	6375.5	6368.0	6360.4	6345.3
10°	6307.4	6307.4	6299.8	6262.0	6254.4
12.5°	6186.2	6178.7	6148.4	6095.4	6080.2
15°	6019.7	6019.7	5959.1	5898.5	5875.8
17.5°	5837.9	5830.4	5754.6	5694.1	5663.8
20°	5641.1	5625.9	5550.2	5451.8	5398.8
22.5°	5421.5	5421.5	5330.6	5201.9	5148.9
25°	5217.0	5186.8	5103.5	4921.7	4785.4
27.5°	4982.3	4936.9	4846.0	4588.6	4429.6
30°	4724.9	4702.1	4573.4	4240.3	4119.1
32.5°	4482.6	4444.7	4308.4	3960.1	3861.7
35°	4232.7	4202.4	3998.0	3695.1	3604.2
37.5°	3982.8	3945.0	3687.5	3445.2	3331.6
40°	3732.9	3687.5	3407.4	3187.8	3066.6
42.5°	3498.2	3437.6	3165.1	2930.3	2794.0
45°	3248.3	3180.2	2907.6	2665.3	2559.3
47.5°	2998.5	2937.9	2688.0	2438.2	2317.0
50°	2733.5	2680.5	2453.3	2203.4	2074.7
52.5°	2513.9	2430.6	2211.0	1961.1	1855.1
55°	2256.4	2188.3	1983.8	1749.1	1658.2
57.5°	2021.7	1953.6	1764.3	1544.7	1468.9
60°	1802.1	1703.7	1544.7	1355.4	1294.8
62.5°	1559.8	1484.1	1347.8	1188.8	1264.5
65°	1340.2	1264.5	1143.4	1166.1	969.2
67.5°	1097.9	1060.1	954.1	848.1	817.8
70°	893.5	848.1	810.2	696.6	666.3
72.5°	711.8	666.3	613.3	552.7	530.0
75°	537.6	499.7	469.5	446.7	492.2
77.5°	371.0	355.9	333.2	310.4	302.9
80°	242.3	234.7	227.2	219.6	212.0
82.5°	143.9	143.9	143.9	143.9	143.9
85°	75.7	83.3	90.9	98.4	106.0
87.5°	45.4	45.4	53.0	60.6	68.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)