

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: P563668

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563668
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-LD4-4HI-35-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14438.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

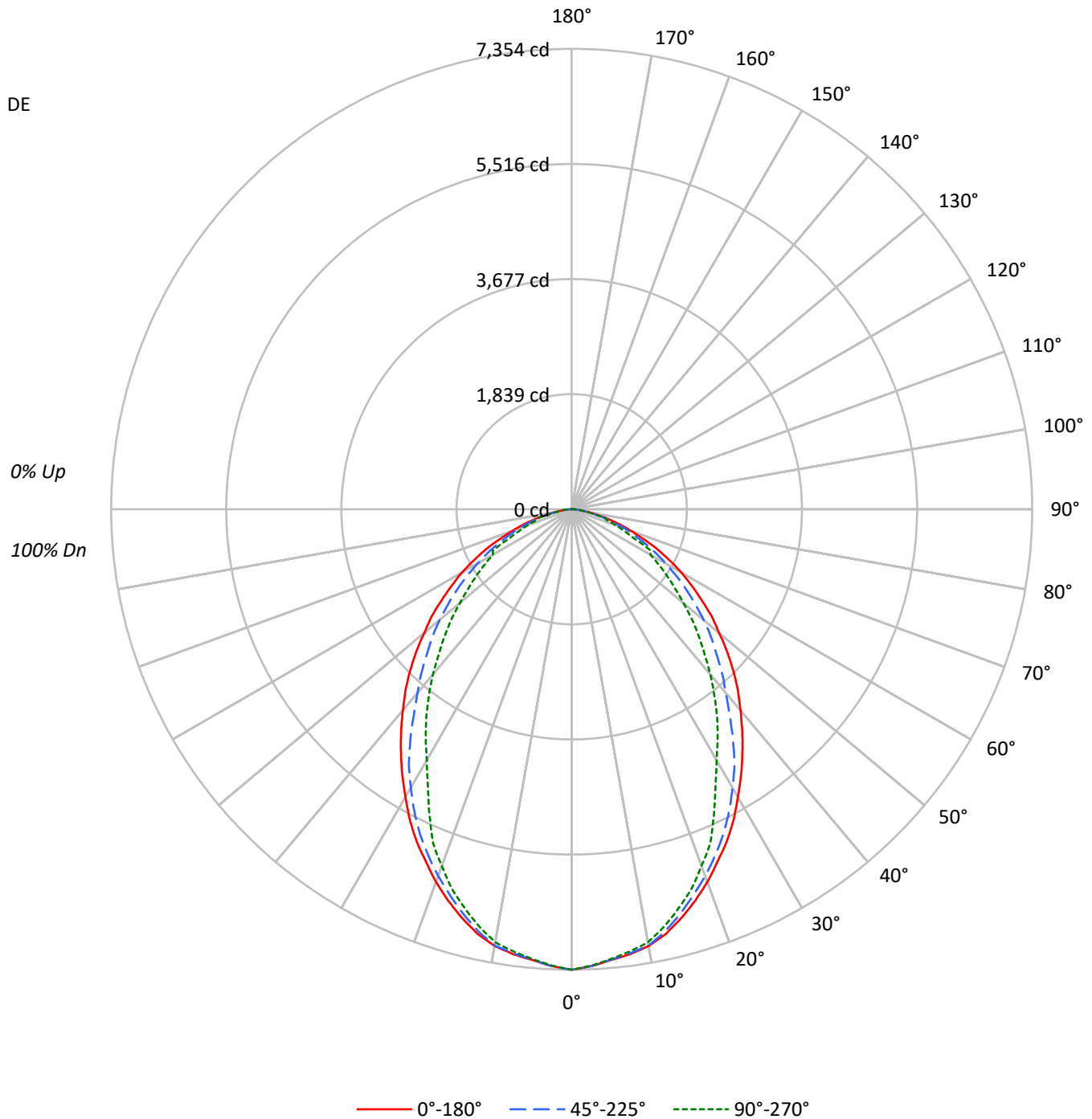
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9895	9895	9895
5°	9761	9750	9738
10°	9676	9665	9595
15°	9416	9321	9190
20°	9070	8924	8680
25°	8697	8508	7977
30°	8243	7979	7186
35°	7807	7374	6648
40°	7362	6720	6048
45°	6940	6212	5468
50°	6425	5766	4876
55°	5944	5225	4368
60°	5445	4668	3912
65°	4791	4088	3465
70°	3947	3579	2943
75°	3138	2740	2873
80°	2108	1977	1845
85°	1312	1575	1837

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6940 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	684.6	4.7
10°-20°	1878.8	13.0
20°-30°	2601.1	18.0
30°-40°	2773.6	19.2
40°-50°	2530.3	17.5
50°-60°	1982.3	13.7
60°-70°	1292.0	8.9
70°-80°	572.4	4.0
80°-90°	122.9	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°	5164.6	35.8
0°-40°	7938.2	55.0
0°-60°	12450.8	86.2
0°-90°	14438.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14438.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7354	7354	7354	7354	7354	
5°	7227	7218	7218	7210	7210	686
15°	6759	6759	6691	6623	6598	1900
25°	5858	5824	5731	5526	5374	2689
35°	4753	4719	4489	4149	4047	2971
45°	3648	3571	3265	2993	2874	2810
55°	2534	2457	2228	1964	1862	2273
65°	1505	1420	1284	1309	1088	1483
75°	604	561	527	502	553	647
85°	85	94	102	110	119	118
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7354.5	7354.5	7354.5	7354.5	7354.5
2.5°	7303.5	7303.5	7303.5	7295.0	7295.0
5°	7227.0	7218.5	7218.5	7210.0	7210.0
7.5°	7167.5	7159.0	7150.5	7142.0	7125.0
10°	7082.4	7082.4	7073.9	7031.4	7022.9
12.5°	6946.4	6937.9	6903.9	6844.4	6827.4
15°	6759.4	6759.4	6691.3	6623.3	6597.8
17.5°	6555.3	6546.8	6461.8	6393.8	6359.8
20°	6334.2	6317.2	6232.2	6121.7	6062.2
22.5°	6087.7	6087.7	5985.6	5841.1	5781.6
25°	5858.1	5824.1	5730.6	5526.5	5373.5
27.5°	5594.5	5543.5	5441.5	5152.4	4973.9
30°	5305.5	5280.0	5135.4	4761.3	4625.3
32.5°	5033.4	4990.9	4837.8	4446.7	4336.2
35°	4752.8	4718.8	4489.2	4149.1	4047.1
37.5°	4472.2	4429.7	4140.6	3868.6	3741.0
40°	4191.7	4140.6	3826.1	3579.5	3443.4
42.5°	3928.1	3860.1	3554.0	3290.4	3137.4
45°	3647.5	3571.0	3264.9	2992.8	2873.8
47.5°	3366.9	3298.9	3018.3	2737.8	2601.7
50°	3069.3	3009.8	2754.8	2474.2	2329.6
52.5°	2822.8	2729.3	2482.7	2202.1	2083.1
55°	2533.7	2457.2	2227.6	1964.0	1862.0
57.5°	2270.1	2193.6	1981.0	1734.5	1649.5
60°	2023.6	1913.0	1734.5	1521.9	1453.9
62.5°	1751.5	1666.5	1513.4	1334.9	1419.9
65°	1504.9	1419.9	1283.9	1309.4	1088.3
67.5°	1232.8	1190.3	1071.3	952.3	918.3
70°	1003.3	952.3	909.8	782.2	748.2
72.5°	799.2	748.2	688.7	620.7	595.2
75°	603.7	561.2	527.1	501.6	552.7
77.5°	416.6	399.6	374.1	348.6	340.1
80°	272.1	263.6	255.1	246.6	238.1
82.5°	161.5	161.5	161.5	161.5	161.5
85°	85.0	93.5	102.0	110.5	119.0
87.5°	51.0	51.0	59.5	68.0	76.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)