

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: P563237

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563237
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-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14322.0 lumens
Efficiency: N/A
Efficacy: 110.5 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

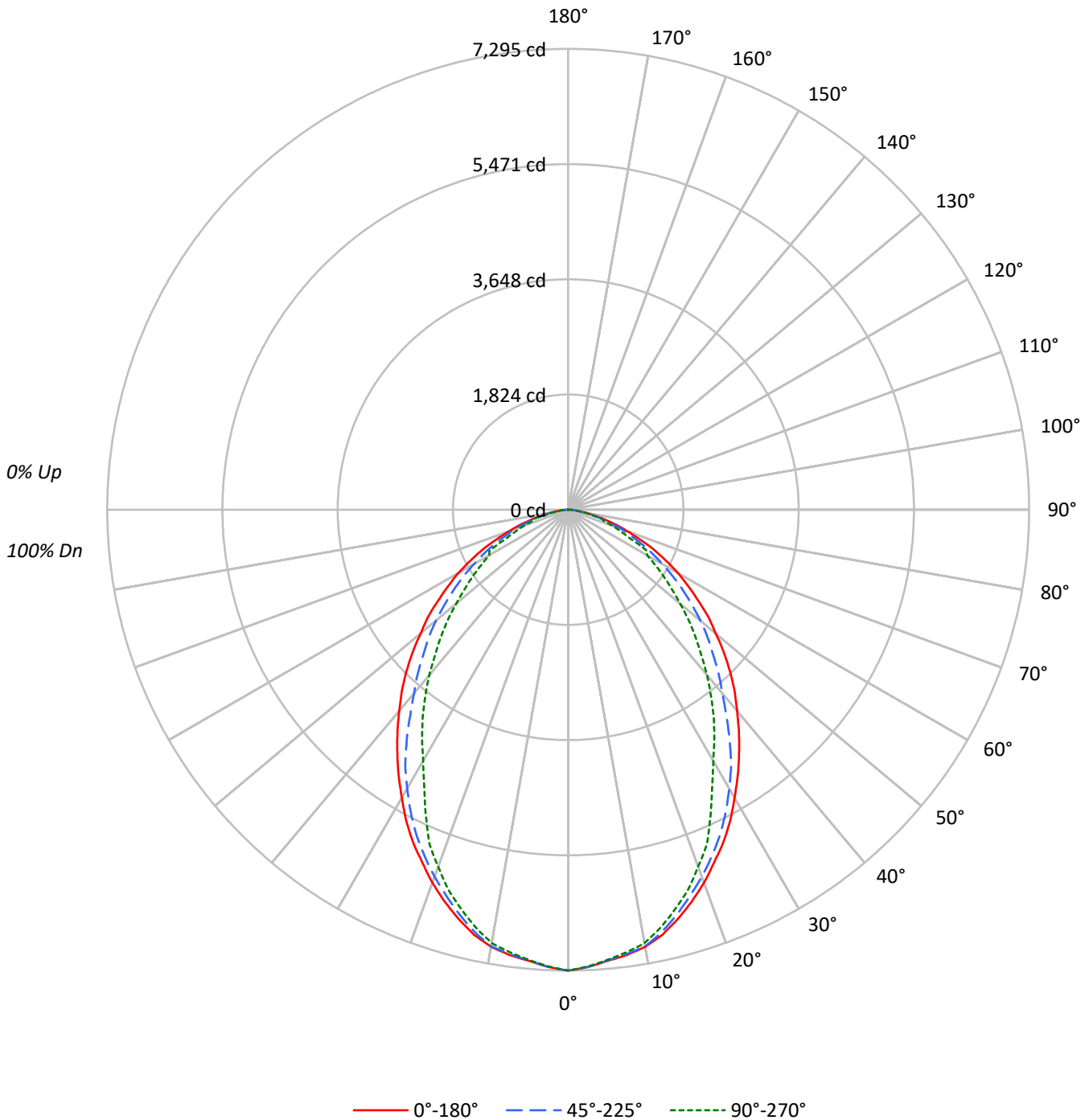
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9816	9816	9816
5°	9683	9671	9660
10°	9599	9587	9518
15°	9340	9246	9117
20°	8997	8852	8610
25°	8627	8439	7913
30°	8176	7915	7128
35°	7744	7315	6594
40°	7303	6666	6000
45°	6885	6163	5424
50°	6373	5720	4837
55°	5896	5183	4333
60°	5402	4630	3881
65°	4753	4054	3437
70°	3915	3550	2920
75°	3113	2718	2850
80°	2091	1960	1830
85°	1301	1562	1823

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6885 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	679.1	4.7
10°-20°	1863.8	13.0
20°-30°	2580.2	18.0
30°-40°	2751.3	19.2
40°-50°	2510.0	17.5
50°-60°	1966.4	13.7
60°-70°	1281.6	8.9
70°-80°	567.8	4.0
80°-90°	121.9	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°	5123.1	35.8
0°-40°	7874.4	55.0
0°-60°	12350.7	86.2
0°-90°	14322.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14322.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7295	7295	7295	7295	7295	
5°	7169	7160	7160	7152	7152	680
15°	6705	6705	6638	6570	6545	1885
25°	5811	5777	5684	5482	5330	2668
35°	4715	4681	4453	4116	4015	2947
45°	3618	3542	3239	2969	2851	2787
55°	2513	2437	2210	1948	1847	2254
65°	1493	1408	1274	1299	1080	1471
75°	599	557	523	498	548	642
85°	84	93	101	110	118	117
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7295.4	7295.4	7295.4	7295.4	7295.4
2.5°	7244.8	7244.8	7244.8	7236.4	7236.4
5°	7168.9	7160.5	7160.5	7152.1	7152.1
7.5°	7109.9	7101.5	7093.0	7084.6	7067.7
10°	7025.5	7025.5	7017.1	6974.9	6966.5
12.5°	6890.6	6882.2	6848.4	6789.4	6772.5
15°	6705.1	6705.1	6637.6	6570.1	6544.8
17.5°	6502.6	6494.2	6409.9	6342.4	6308.7
20°	6283.4	6266.5	6182.1	6072.5	6013.5
22.5°	6038.8	6038.8	5937.6	5794.2	5735.1
25°	5811.0	5777.3	5684.5	5482.1	5330.3
27.5°	5549.6	5499.0	5397.8	5111.0	4933.9
30°	5262.8	5237.5	5094.2	4723.1	4588.1
32.5°	4992.9	4950.8	4799.0	4411.0	4301.4
35°	4714.6	4680.9	4453.2	4115.8	4014.6
37.5°	4436.3	4394.1	4107.4	3837.5	3711.0
40°	4158.0	4107.4	3795.3	3550.7	3415.8
42.5°	3896.5	3829.0	3525.4	3264.0	3112.2
45°	3618.2	3542.3	3238.7	2968.8	2850.7
47.5°	3339.9	3272.4	2994.1	2715.8	2580.8
50°	3044.7	2985.6	2732.6	2454.3	2310.9
52.5°	2800.1	2707.3	2462.7	2184.4	2066.3
55°	2513.3	2437.4	2209.7	1948.3	1847.1
57.5°	2251.9	2176.0	1965.1	1720.5	1636.2
60°	2007.3	1897.7	1720.5	1509.7	1442.2
62.5°	1737.4	1653.1	1501.3	1324.1	1408.5
65°	1492.8	1408.5	1273.5	1298.8	1079.6
67.5°	1222.9	1180.8	1062.7	944.6	910.9
70°	995.2	944.6	902.4	775.9	742.2
72.5°	792.8	742.2	683.2	615.7	590.4
75°	598.8	556.6	522.9	497.6	548.2
77.5°	413.3	396.4	371.1	345.8	337.4
80°	269.9	261.5	253.0	244.6	236.2
82.5°	160.2	160.2	160.2	160.2	160.2
85°	84.3	92.8	101.2	109.6	118.1
87.5°	50.6	50.6	59.0	67.5	75.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)