

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: P563993

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563993
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-LD4-4LO-50-UNV-82-88-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9401.0 lumens
Efficiency: N/A
Efficacy: 100.4 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

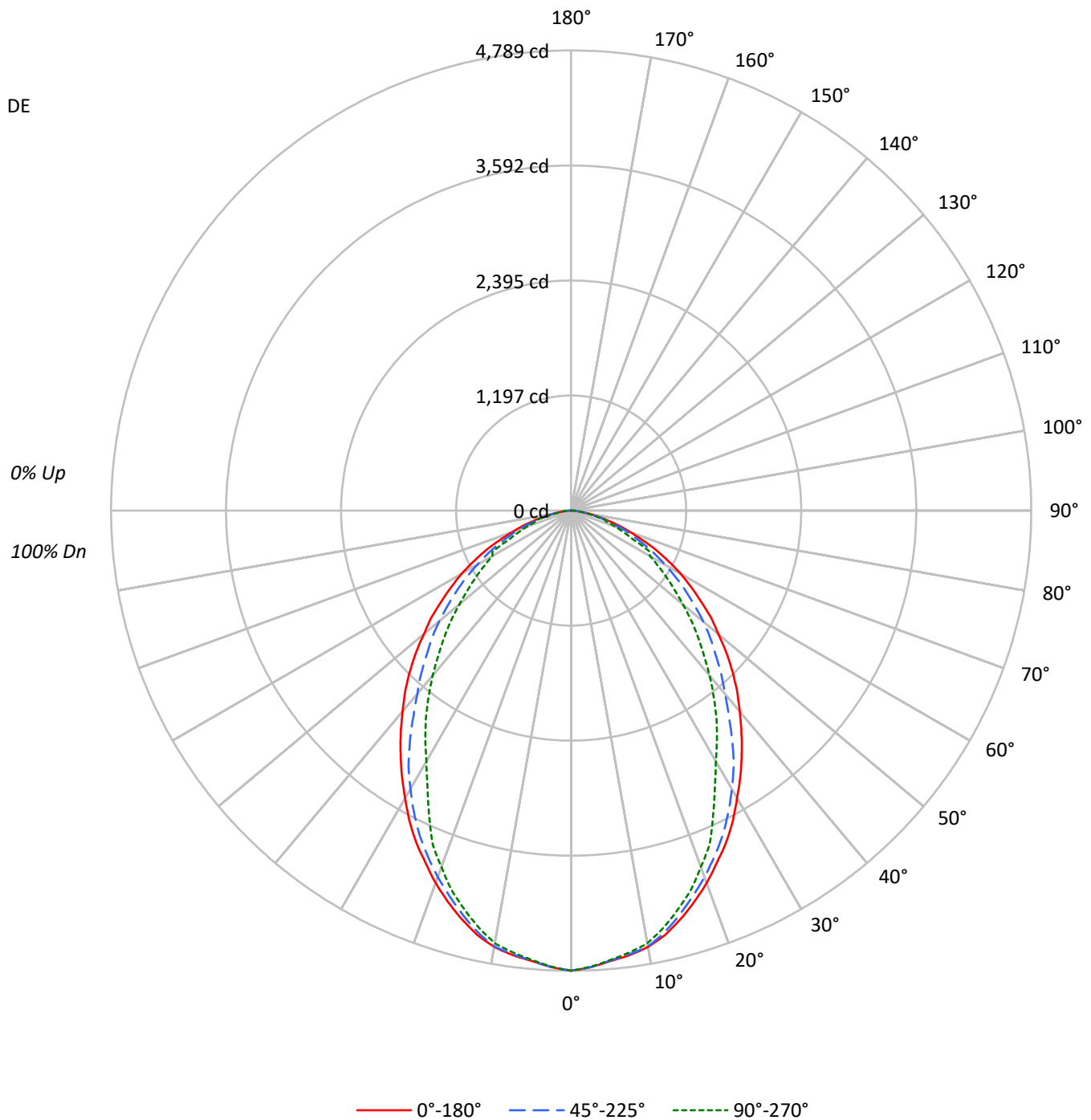
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6443	6443	6443
5°	6356	6348	6341
10°	6301	6293	6248
15°	6131	6069	5984
20°	5905	5810	5652
25°	5663	5539	5194
30°	5367	5195	4679
35°	5083	4801	4328
40°	4794	4376	3938
45°	4519	4045	3561
50°	4183	3755	3175
55°	3870	3403	2844
60°	3546	3039	2548
65°	3120	2662	2256
70°	2570	2330	1917
75°	2044	1784	1870
80°	1373	1287	1201
85°	855	1025	1196

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4519 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	445.8	4.7
10°-20°	1223.4	13.0
20°-30°	1693.7	18.0
30°-40°	1805.9	19.2
40°-50°	1647.6	17.5
50°-60°	1290.7	13.7
60°-70°	841.2	8.9
70°-80°	372.7	4.0
80°-90°	80.0	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°	3362.8	35.8
0°-40°	5168.8	55.0
0°-60°	8107.0	86.2
0°-90°	9401.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9401.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4789	4789	4789	4789	4789	
5°	4706	4700	4700	4695	4695	447
15°	4401	4401	4357	4313	4296	1237
25°	3814	3792	3731	3598	3499	1751
35°	3095	3072	2923	2702	2635	1935
45°	2375	2325	2126	1949	1871	1829
55°	1650	1600	1450	1279	1212	1480
65°	980	924	836	853	709	966
75°	393	365	343	327	360	421
85°	55	61	66	72	78	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4788.7	4788.7	4788.7	4788.7	4788.7
2.5°	4755.5	4755.5	4755.5	4750.0	4750.0
5°	4705.7	4700.2	4700.2	4694.6	4694.6
7.5°	4666.9	4661.4	4655.9	4650.3	4639.3
10°	4611.6	4611.6	4606.1	4578.4	4572.8
12.5°	4523.0	4517.5	4495.3	4456.6	4445.5
15°	4401.2	4401.2	4356.9	4312.6	4296.0
17.5°	4268.3	4262.8	4207.5	4163.2	4141.0
20°	4124.4	4113.3	4058.0	3986.0	3947.3
22.5°	3963.9	3963.9	3897.4	3803.3	3764.6
25°	3814.4	3792.2	3731.3	3598.5	3498.8
27.5°	3642.8	3609.6	3543.1	3354.9	3238.6
30°	3454.5	3437.9	3343.8	3100.2	3011.6
32.5°	3277.4	3249.7	3150.1	2895.4	2823.4
35°	3094.7	3072.5	2923.1	2701.6	2635.2
37.5°	2912.0	2884.3	2696.1	2518.9	2435.9
40°	2729.3	2696.1	2491.3	2330.7	2242.1
42.5°	2557.7	2513.4	2314.1	2142.5	2042.8
45°	2375.0	2325.2	2125.9	1948.7	1871.2
47.5°	2192.3	2148.0	1965.3	1782.6	1694.1
50°	1998.5	1959.8	1793.7	1611.0	1516.9
52.5°	1838.0	1777.1	1616.5	1433.9	1356.3
55°	1649.8	1599.9	1450.5	1278.8	1212.4
57.5°	1478.1	1428.3	1289.9	1129.4	1074.0
60°	1317.6	1245.6	1129.4	991.0	946.7
62.5°	1140.4	1085.1	985.4	869.2	924.5
65°	979.9	924.5	836.0	852.6	708.6
67.5°	802.7	775.1	697.6	620.0	597.9
70°	653.3	620.0	592.4	509.3	487.2
72.5°	520.4	487.2	448.4	404.1	387.5
75°	393.1	365.4	343.2	326.6	359.8
77.5°	271.3	260.2	243.6	227.0	221.4
80°	177.2	171.6	166.1	160.5	155.0
82.5°	105.2	105.2	105.2	105.2	105.2
85°	55.4	60.9	66.4	72.0	77.5
87.5°	33.2	33.2	38.8	44.3	49.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)