

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: P563096

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563096
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-35-UNV-82-88-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9435.0 lumens
Efficiency: N/A
Efficacy: 72.8 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

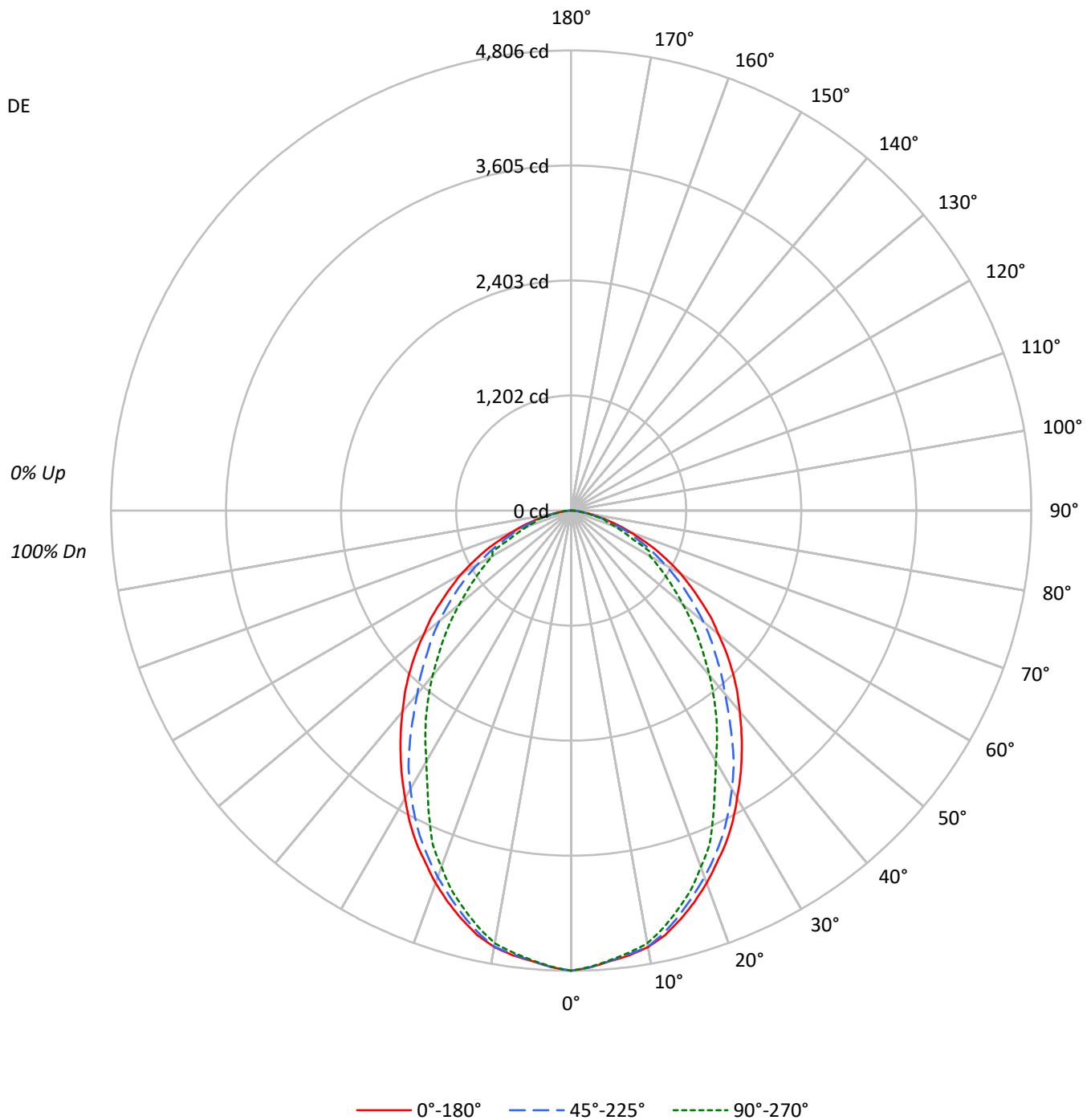
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6467	6467	6467
5°	6379	6371	6364
10°	6323	6316	6270
15°	6153	6091	6006
20°	5927	5831	5672
25°	5683	5559	5213
30°	5386	5214	4696
35°	5102	4819	4344
40°	4811	4392	3952
45°	4536	4060	3573
50°	4199	3768	3187
55°	3884	3415	2854
60°	3559	3050	2557
65°	3131	2671	2264
70°	2579	2339	1923
75°	2051	1791	1877
80°	1378	1292	1206
85°	858	1030	1201

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4536 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	447.4	4.7
10°-20°	1227.8	13.0
20°-30°	1699.8	18.0
30°-40°	1812.5	19.2
40°-50°	1653.5	17.5
50°-60°	1295.4	13.7
60°-70°	844.3	8.9
70°-80°	374.0	4.0
80°-90°	80.3	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°	3375.0	35.8
0°-40°	5187.5	55.0
0°-60°	8136.4	86.2
0°-90°	9435.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9435.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4806	4806	4806	4806	4806	
5°	4723	4717	4717	4712	4712	448
15°	4417	4417	4373	4328	4312	1242
25°	3828	3806	3745	3612	3512	1758
35°	3106	3084	2934	2711	2645	1942
45°	2384	2334	2134	1956	1878	1836
55°	1656	1606	1456	1284	1217	1485
65°	983	928	839	856	711	969
75°	394	367	344	328	361	423
85°	56	61	67	72	78	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4806.1	4806.1	4806.1	4806.1	4806.1
2.5°	4772.7	4772.7	4772.7	4767.2	4767.2
5°	4722.7	4717.2	4717.2	4711.6	4711.6
7.5°	4683.8	4678.3	4672.7	4667.2	4656.0
10°	4628.3	4628.3	4622.7	4594.9	4589.4
12.5°	4539.4	4533.8	4511.6	4472.7	4461.6
15°	4417.1	4417.1	4372.7	4328.2	4311.6
17.5°	4283.8	4278.2	4222.7	4178.2	4156.0
20°	4139.3	4128.2	4072.7	4000.4	3961.5
22.5°	3978.2	3978.2	3911.5	3817.1	3778.2
25°	3828.2	3806.0	3744.8	3611.5	3511.5
27.5°	3655.9	3622.6	3555.9	3367.0	3250.3
30°	3467.0	3450.4	3355.9	3111.4	3022.5
32.5°	3289.2	3261.5	3161.4	2905.9	2833.6
35°	3105.9	3083.7	2933.6	2711.4	2644.7
37.5°	2922.5	2894.8	2705.8	2528.0	2444.7
40°	2739.2	2705.8	2500.3	2339.1	2250.2
42.5°	2566.9	2522.5	2322.5	2150.2	2050.2
45°	2383.6	2333.6	2133.6	1955.8	1878.0
47.5°	2200.2	2155.8	1972.4	1789.1	1700.2
50°	2005.8	1966.9	1800.2	1616.8	1522.4
52.5°	1844.6	1783.5	1622.4	1439.0	1361.3
55°	1655.7	1605.7	1455.7	1283.5	1216.8
57.5°	1483.5	1433.5	1294.6	1133.5	1077.9
60°	1322.4	1250.1	1133.5	994.5	950.1
62.5°	1144.6	1089.0	989.0	872.3	927.9
65°	983.4	927.9	839.0	855.6	711.2
67.5°	805.6	777.9	700.1	622.3	600.1
70°	655.6	622.3	594.5	511.2	488.9
72.5°	522.3	488.9	450.0	405.6	388.9
75°	394.5	366.7	344.5	327.8	361.1
77.5°	272.3	261.1	244.5	227.8	222.2
80°	177.8	172.2	166.7	161.1	155.6
82.5°	105.6	105.6	105.6	105.6	105.6
85°	55.6	61.1	66.7	72.2	77.8
87.5°	33.3	33.3	38.9	44.4	50.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)