

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: P563355

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563355
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-LD4-3LO-40-UNV-82-94-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8230.0 lumens
Efficiency: N/A
Efficacy: 117.2 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

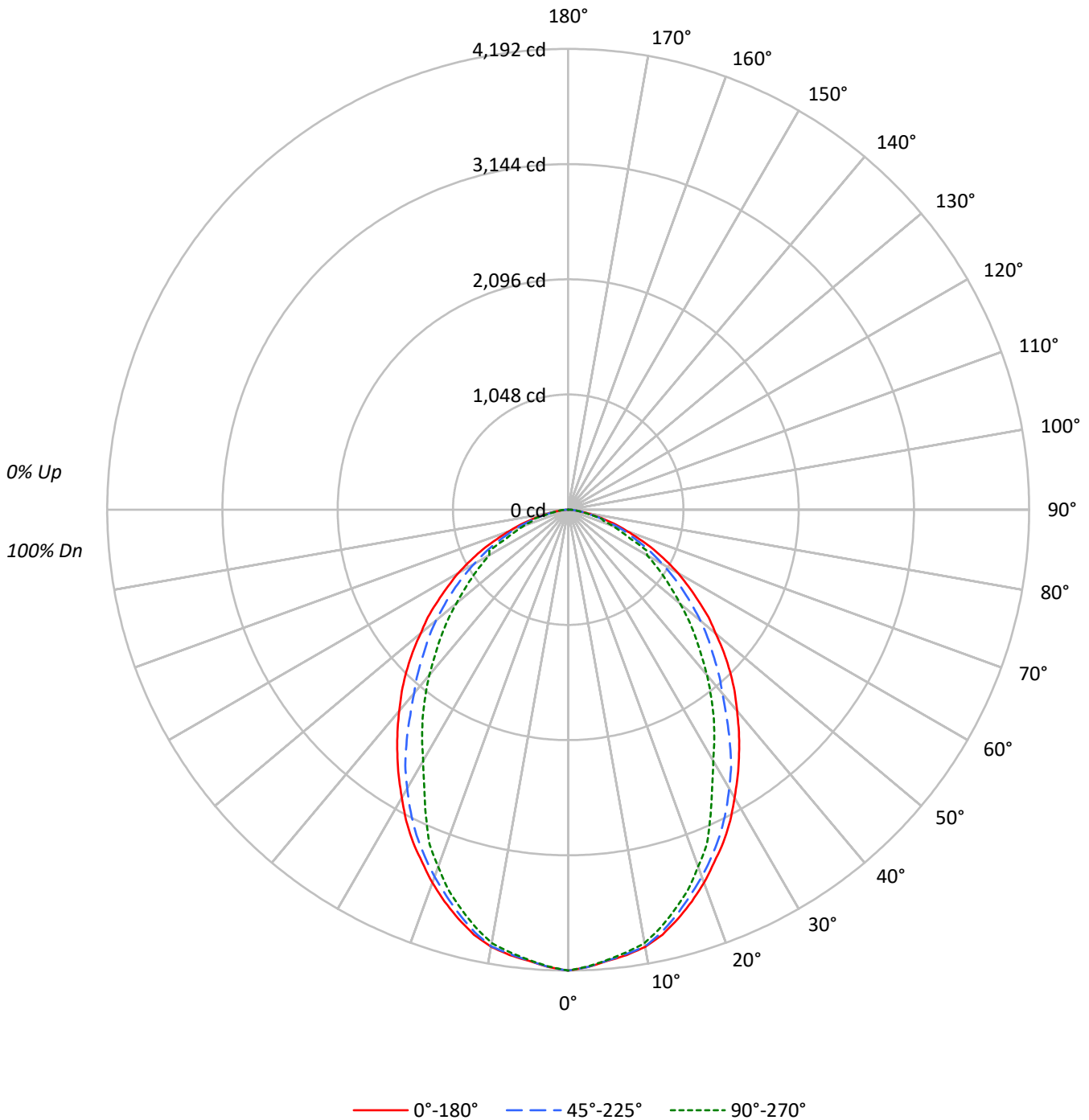
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5641	5641	5641
5°	5564	5557	5551
10°	5516	5509	5469
15°	5367	5313	5239
20°	5170	5087	4948
25°	4957	4850	4547
30°	4699	4548	4096
35°	4450	4203	3789
40°	4197	3831	3447
45°	3956	3541	3117
50°	3662	3287	2780
55°	3388	2979	2490
60°	3104	2661	2230
65°	2731	2330	1975
70°	2250	2040	1678
75°	1789	1562	1638
80°	1202	1127	1051
85°	749	898	1048

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3956 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	390.2	4.7
10°-20°	1071.0	13.0
20°-30°	1482.7	18.0
30°-40°	1581.0	19.2
40°-50°	1442.3	17.5
50°-60°	1129.9	13.7
60°-70°	736.5	8.9
70°-80°	326.3	4.0
80°-90°	70.1	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°	2943.9	35.8
0°-40°	4524.9	55.0
0°-60°	7097.2	86.2
0°-90°	8230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8230.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4192	4192	4192	4192	4192	
5°	4120	4115	4115	4110	4110	391
15°	3853	3853	3814	3776	3761	1083
25°	3339	3320	3267	3150	3063	1533
35°	2709	2690	2559	2365	2307	1694
45°	2079	2036	1861	1706	1638	1602
55°	1444	1401	1270	1120	1061	1295
65°	858	809	732	746	620	845
75°	344	320	300	286	315	369
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4192.3	4192.3	4192.3	4192.3	4192.3
2.5°	4163.2	4163.2	4163.2	4158.3	4158.3
5°	4119.6	4114.7	4114.7	4109.9	4109.9
7.5°	4085.6	4080.8	4075.9	4071.1	4061.4
10°	4037.2	4037.2	4032.3	4008.1	4003.2
12.5°	3959.6	3954.8	3935.4	3901.5	3891.8
15°	3853.0	3853.0	3814.2	3775.5	3760.9
17.5°	3736.7	3731.8	3683.4	3644.6	3625.2
20°	3610.7	3601.0	3552.5	3489.5	3455.6
22.5°	3470.1	3470.1	3412.0	3329.6	3295.6
25°	3339.3	3319.9	3266.6	3150.2	3063.0
27.5°	3189.0	3159.9	3101.8	2937.0	2835.2
30°	3024.2	3009.7	2927.3	2714.1	2636.5
32.5°	2869.1	2844.9	2757.7	2534.7	2471.7
35°	2709.2	2689.8	2559.0	2365.1	2307.0
37.5°	2549.3	2525.0	2360.3	2205.2	2132.5
40°	2389.3	2360.3	2180.9	2040.4	1962.8
42.5°	2239.1	2200.3	2025.9	1875.6	1788.4
45°	2079.2	2035.5	1861.1	1706.0	1638.1
47.5°	1919.2	1880.5	1720.5	1560.6	1483.0
50°	1749.6	1715.7	1570.3	1410.3	1328.0
52.5°	1609.0	1555.7	1415.2	1255.3	1187.4
55°	1444.3	1400.6	1269.8	1119.5	1061.4
57.5°	1294.0	1250.4	1129.2	988.7	940.2
60°	1153.5	1090.5	988.7	867.5	828.8
62.5°	998.4	949.9	862.7	760.9	809.4
65°	857.8	809.4	731.8	746.4	620.4
67.5°	702.7	678.5	610.7	542.8	523.4
70°	571.9	542.8	518.6	445.9	426.5
72.5°	455.6	426.5	392.6	353.8	339.3
75°	344.1	319.9	300.5	285.9	315.0
77.5°	237.5	227.8	213.2	198.7	193.9
80°	155.1	150.2	145.4	140.5	135.7
82.5°	92.1	92.1	92.1	92.1	92.1
85°	48.5	53.3	58.2	63.0	67.9
87.5°	29.1	29.1	33.9	38.8	43.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)