

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: P562587

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562587
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-LD4-2HI-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: 9013.0 lumens
Efficiency: N/A
Efficacy: 104.3 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

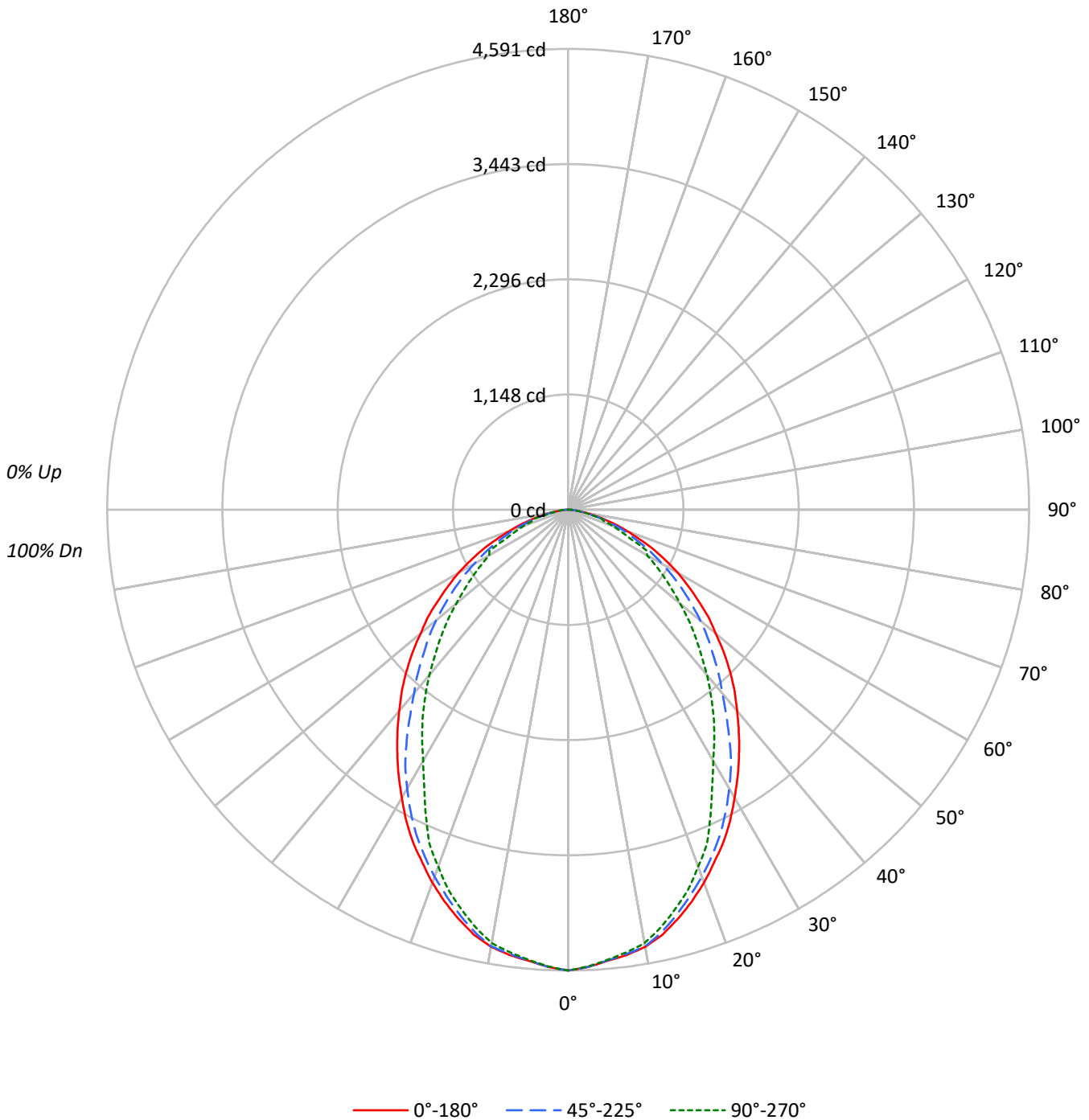
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6177	6177	6177
5°	6093	6086	6079
10°	6041	6033	5990
15°	5878	5819	5737
20°	5662	5571	5419
25°	5429	5311	4980
30°	5146	4981	4486
35°	4873	4603	4150
40°	4596	4195	3776
45°	4333	3878	3414
50°	4011	3600	3044
55°	3710	3262	2727
60°	3399	2914	2442
65°	2991	2552	2163
70°	2464	2234	1838
75°	1959	1711	1794
80°	1316	1234	1151
85°	820	983	1147

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4333 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	427.4	4.7
10°-20°	1172.9	13.0
20°-30°	1623.8	18.0
30°-40°	1731.4	19.2
40°-50°	1579.6	17.5
50°-60°	1237.5	13.7
60°-70°	806.5	8.9
70°-80°	357.3	4.0
80°-90°	76.7	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°	3224.0	35.8
0°-40°	4955.4	55.0
0°-60°	7772.5	86.2
0°-90°	9013.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9013.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4591	4591	4591	4591	4591	
5°	4512	4506	4506	4501	4501	428
15°	4220	4220	4177	4135	4119	1186
25°	3657	3636	3577	3450	3354	1679
35°	2967	2946	2802	2590	2526	1855
45°	2277	2229	2038	1868	1794	1754
55°	1582	1534	1391	1226	1162	1419
65°	940	886	802	817	679	926
75°	377	350	329	313	345	404
85°	53	58	64	69	74	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4591.1	4591.1	4591.1	4591.1	4591.1
2.5°	4559.3	4559.3	4559.3	4553.9	4553.9
5°	4511.5	4506.2	4506.2	4500.9	4500.9
7.5°	4474.3	4469.0	4463.7	4458.4	4447.8
10°	4421.3	4421.3	4415.9	4389.4	4384.1
12.5°	4336.3	4331.0	4309.8	4272.6	4262.0
15°	4219.6	4219.6	4177.1	4134.6	4118.7
17.5°	4092.2	4086.9	4033.8	3991.3	3970.1
20°	3954.2	3943.6	3890.5	3821.5	3784.3
22.5°	3800.3	3800.3	3736.6	3646.3	3609.2
25°	3657.0	3635.7	3577.3	3450.0	3354.4
27.5°	3492.4	3460.6	3396.9	3216.4	3105.0
30°	3312.0	3296.0	3205.8	2972.3	2887.4
32.5°	3142.1	3115.6	3020.0	2775.9	2706.9
35°	2967.0	2945.7	2802.4	2590.1	2526.4
37.5°	2791.8	2765.3	2584.8	2415.0	2335.4
40°	2616.7	2584.8	2388.4	2234.5	2149.6
42.5°	2452.1	2409.7	2218.6	2054.1	1958.5
45°	2277.0	2229.2	2038.1	1868.3	1794.0
47.5°	2101.8	2059.4	1884.2	1709.1	1624.1
50°	1916.1	1878.9	1719.7	1544.5	1454.3
52.5°	1762.1	1703.7	1549.8	1374.7	1300.4
55°	1581.7	1533.9	1390.6	1226.1	1162.4
57.5°	1417.1	1369.4	1236.7	1082.8	1029.7
60°	1263.2	1194.2	1082.8	950.1	907.6
62.5°	1093.4	1040.3	944.8	833.3	886.4
65°	939.5	886.4	801.5	817.4	679.4
67.5°	769.6	743.1	668.8	594.5	573.2
70°	626.3	594.5	567.9	488.3	467.1
72.5°	498.9	467.1	429.9	387.5	371.5
75°	376.8	350.3	329.1	313.2	345.0
77.5°	260.1	249.5	233.5	217.6	212.3
80°	169.8	164.5	159.2	153.9	148.6
82.5°	100.8	100.8	100.8	100.8	100.8
85°	53.1	58.4	63.7	69.0	74.3
87.5°	31.8	31.8	37.2	42.5	47.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)