

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: P562509

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562509
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-35-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9015.0 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

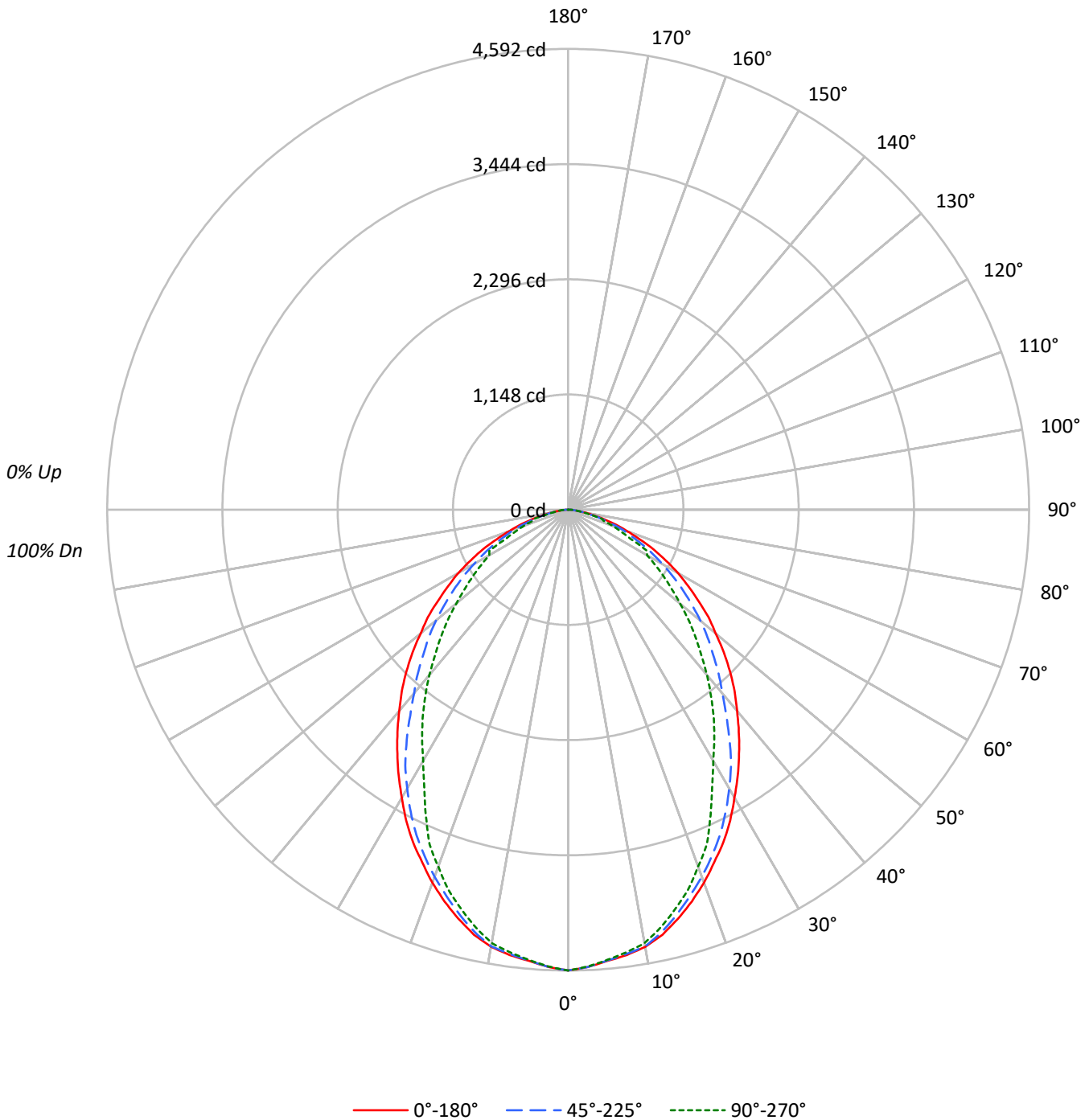
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6179	6179	6179
5°	6095	6088	6080
10°	6042	6035	5991
15°	5879	5820	5738
20°	5663	5572	5420
25°	5430	5312	4981
30°	5147	4982	4487
35°	4874	4604	4151
40°	4597	4196	3776
45°	4334	3879	3414
50°	4012	3601	3045
55°	3711	3263	2727
60°	3400	2914	2443
65°	2992	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: 4334 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	427.5	4.7
10°-20°	1173.1	13.0
20°-30°	1624.1	18.0
30°-40°	1731.8	19.2
40°-50°	1579.9	17.5
50°-60°	1237.7	13.7
60°-70°	806.7	8.9
70°-80°	357.4	4.0
80°-90°	76.8	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°	3224.7	35.8
0°-40°	4956.5	55.0
0°-60°	7774.2	86.2
0°-90°	9015.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9015.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4592	4592	4592	4592	4592	
5°	4512	4507	4507	4502	4502	428
15°	4220	4220	4178	4136	4120	1187
25°	3658	3636	3578	3451	3355	1679
35°	2968	2946	2803	2591	2527	1855
45°	2278	2230	2039	1869	1794	1754
55°	1582	1534	1391	1226	1163	1419
65°	940	887	802	818	680	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°	4592.1	4592.1	4592.1	4592.1	4592.1
2.5°	4560.3	4560.3	4560.3	4555.0	4555.0
5°	4512.5	4507.2	4507.2	4501.9	4501.9
7.5°	4475.3	4470.0	4464.7	4459.4	4448.8
10°	4422.2	4422.2	4416.9	4390.4	4385.1
12.5°	4337.3	4332.0	4310.8	4273.6	4263.0
15°	4220.5	4220.5	4178.0	4135.6	4119.6
17.5°	4093.1	4087.8	4034.7	3992.2	3971.0
20°	3955.1	3944.4	3891.4	3822.3	3785.2
22.5°	3801.1	3801.1	3737.4	3647.2	3610.0
25°	3657.8	3636.5	3578.1	3450.7	3355.2
27.5°	3493.2	3461.3	3397.6	3217.1	3105.7
30°	3312.7	3296.8	3206.5	2972.9	2888.0
32.5°	3142.8	3116.3	3020.7	2776.5	2707.5
35°	2967.6	2946.4	2803.1	2590.7	2527.0
37.5°	2792.4	2765.9	2585.4	2415.5	2335.9
40°	2617.2	2585.4	2389.0	2235.0	2150.1
42.5°	2452.7	2410.2	2219.1	2054.5	1959.0
45°	2277.5	2229.7	2038.6	1868.7	1794.4
47.5°	2102.3	2059.8	1884.6	1709.4	1624.5
50°	1916.5	1879.3	1720.1	1544.9	1454.6
52.5°	1762.5	1704.1	1550.2	1375.0	1300.7
55°	1582.0	1534.2	1390.9	1226.3	1162.6
57.5°	1417.5	1369.7	1237.0	1083.0	1029.9
60°	1263.5	1194.5	1083.0	950.3	907.8
62.5°	1093.6	1040.5	945.0	833.5	886.6
65°	939.7	886.6	801.6	817.6	679.5
67.5°	769.8	743.2	668.9	594.6	573.4
70°	626.4	594.6	568.0	488.4	467.2
72.5°	499.0	467.2	430.0	387.5	371.6
75°	376.9	350.4	329.1	313.2	345.1
77.5°	260.1	249.5	233.6	217.7	212.4
80°	169.9	164.6	159.3	154.0	148.6
82.5°	100.9	100.9	100.9	100.9	100.9
85°	53.1	58.4	63.7	69.0	74.3
87.5°	31.9	31.9	37.2	42.5	47.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)