

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: P563924

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563924
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-40-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8914.9 lumens
Efficiency: N/A
Efficacy: 95.2 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

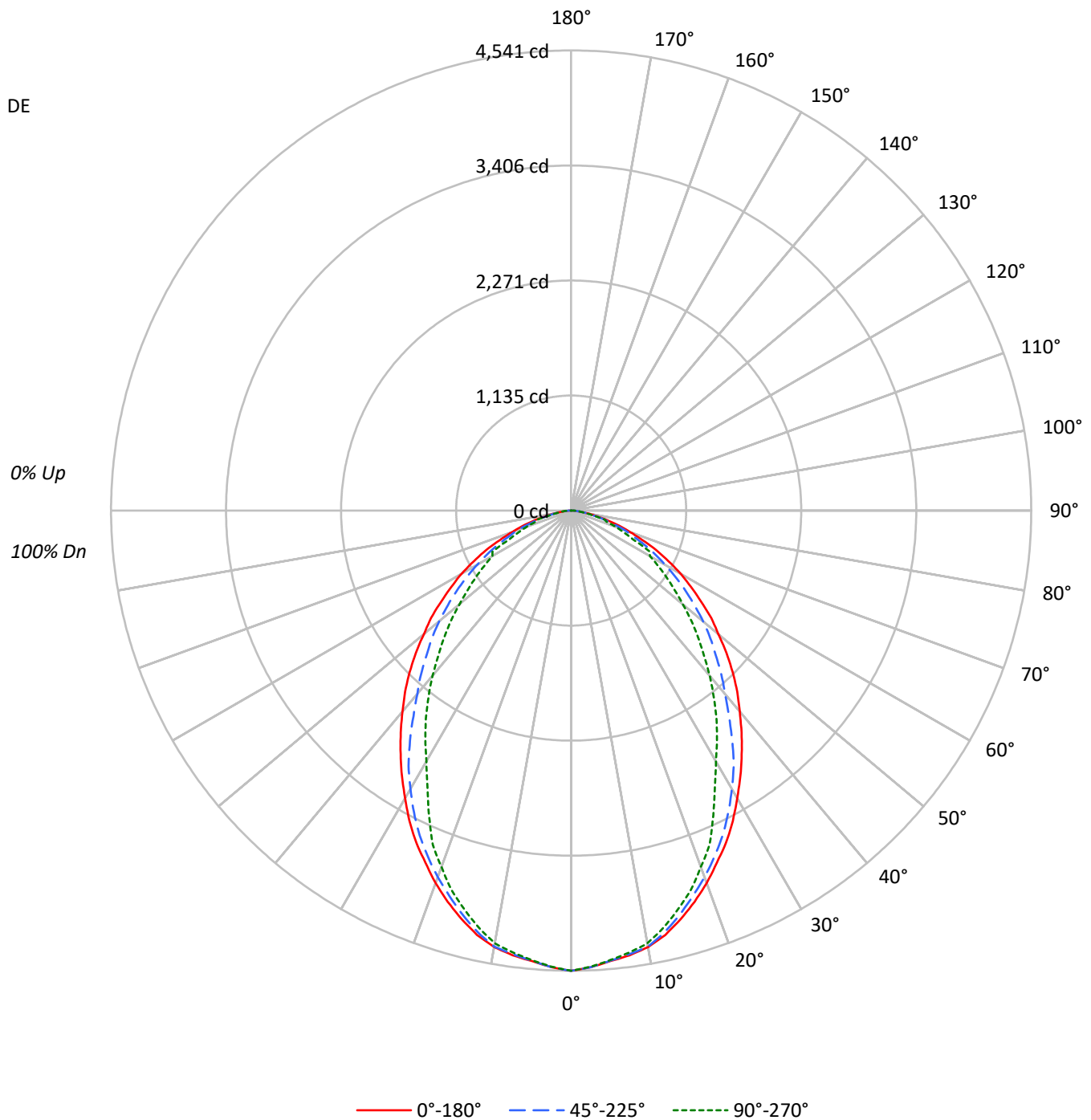
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6110	6110	6110
5°	6027	6020	6013
10°	5975	5968	5925
15°	5814	5755	5675
20°	5600	5510	5360
25°	5370	5253	4926
30°	5090	4927	4437
35°	4820	4553	4105
40°	4546	4150	3734
45°	4286	3836	3377
50°	3967	3561	3011
55°	3670	3227	2697
60°	3362	2882	2416
65°	2958	2524	2139
70°	2437	2210	1817
75°	1938	1692	1774
80°	1302	1220	1139
85°	810	973	1135

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4286 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	422.7	4.7
10°-20°	1160.1	13.0
20°-30°	1606.1	18.0
30°-40°	1712.6	19.2
40°-50°	1562.4	17.5
50°-60°	1224.0	13.7
60°-70°	797.7	8.9
70°-80°	353.4	4.0
80°-90°	75.9	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°	3189.0	35.8
0°-40°	4901.6	55.0
0°-60°	7687.9	86.2
0°-90°	8914.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8914.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4541	4541	4541	4541	4541	
5°	4462	4457	4457	4452	4452	424
15°	4174	4174	4132	4090	4074	1173
25°	3617	3596	3538	3412	3318	1661
35°	2935	2914	2772	2562	2499	1835
45°	2252	2205	2016	1848	1774	1735
55°	1564	1517	1376	1213	1150	1403
65°	929	877	793	808	672	916
75°	373	346	326	310	341	399
85°	52	58	63	68	74	73
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4541.2	4541.2	4541.2	4541.2	4541.2
2.5°	4509.7	4509.7	4509.7	4504.4	4504.4
5°	4462.4	4457.2	4457.2	4451.9	4451.9
7.5°	4425.7	4420.4	4415.2	4409.9	4399.4
10°	4373.2	4373.2	4367.9	4341.7	4336.4
12.5°	4289.2	4283.9	4262.9	4226.2	4215.7
15°	4173.7	4173.7	4131.7	4089.7	4073.9
17.5°	4047.7	4042.4	3989.9	3947.9	3926.9
20°	3911.2	3900.7	3848.2	3779.9	3743.2
22.5°	3758.9	3758.9	3695.9	3606.7	3569.9
25°	3617.2	3596.2	3538.4	3412.4	3318.0
27.5°	3454.4	3422.9	3359.9	3181.5	3071.2
30°	3276.0	3260.2	3171.0	2940.0	2856.0
32.5°	3108.0	3081.7	2987.2	2745.7	2677.5
35°	2934.7	2913.7	2772.0	2562.0	2499.0
37.5°	2761.5	2735.2	2556.7	2388.7	2310.0
40°	2588.2	2556.7	2362.5	2210.2	2126.2
42.5°	2425.5	2383.5	2194.5	2031.7	1937.2
45°	2252.2	2205.0	2016.0	1848.0	1774.5
47.5°	2079.0	2037.0	1863.7	1690.5	1606.5
50°	1895.2	1858.5	1701.0	1527.7	1438.5
52.5°	1743.0	1685.2	1533.0	1359.7	1286.2
55°	1564.5	1517.2	1375.5	1212.7	1149.7
57.5°	1401.7	1354.5	1223.2	1071.0	1018.5
60°	1249.5	1181.2	1071.0	939.7	897.7
62.5°	1081.5	1029.0	934.5	824.2	876.7
65°	929.2	876.7	792.7	808.5	672.0
67.5°	761.2	735.0	661.5	588.0	567.0
70°	619.5	588.0	561.7	483.0	462.0
72.5°	493.5	462.0	425.2	383.2	367.5
75°	372.7	346.5	325.5	309.7	341.2
77.5°	257.2	246.7	231.0	215.2	210.0
80°	168.0	162.7	157.5	152.2	147.0
82.5°	99.7	99.7	99.7	99.7	99.7
85°	52.5	57.7	63.0	68.2	73.5
87.5°	31.5	31.5	36.7	42.0	47.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)