

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: P563940

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563940
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-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9605.0 lumens
Efficiency: N/A
Efficacy: 102.6 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

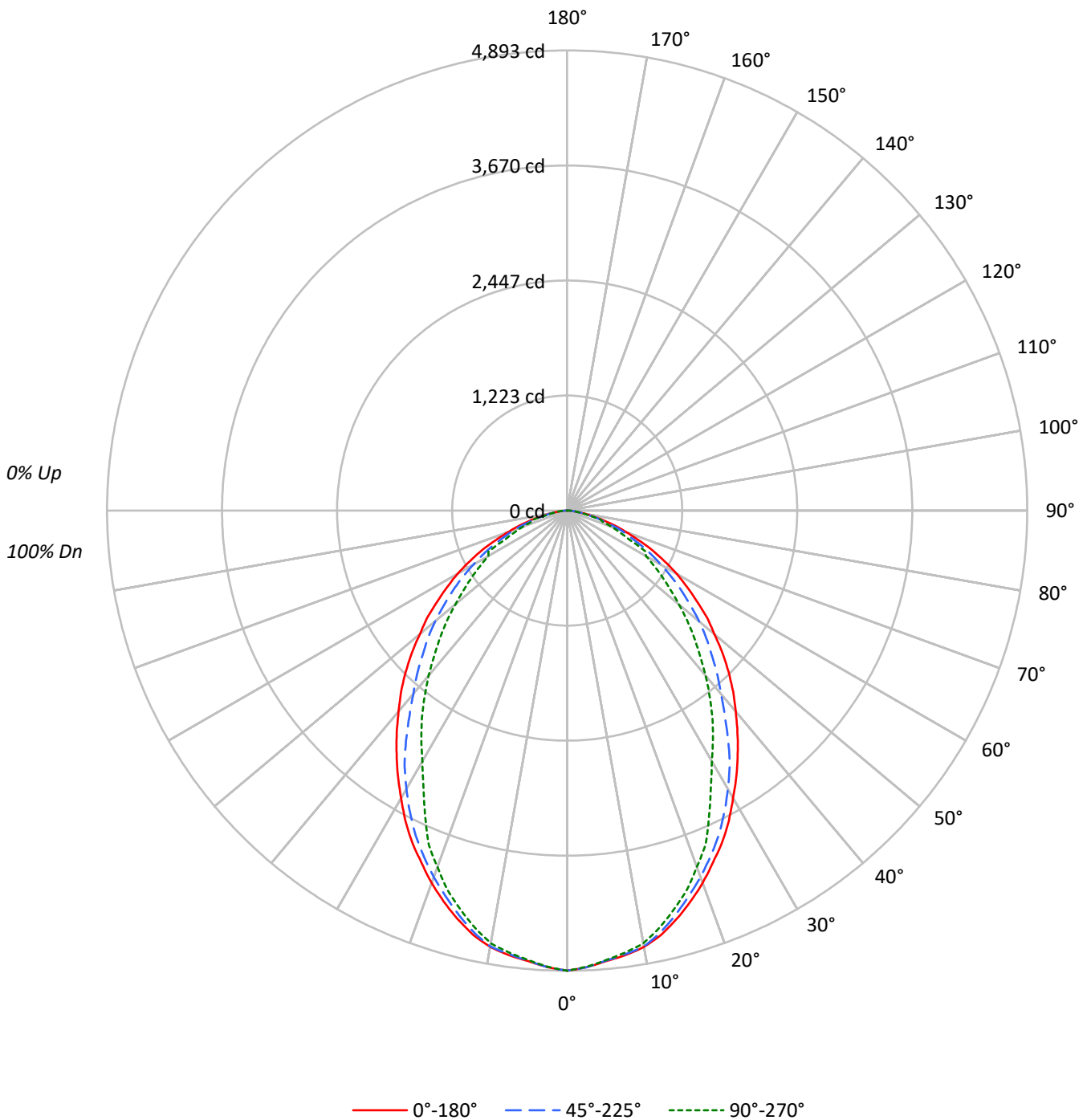
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6583	6583	6583
5°	6494	6486	6478
10°	6437	6430	6383
15°	6264	6201	6114
20°	6034	5936	5774
25°	5786	5660	5307
30°	5484	5308	4781
35°	5193	4905	4422
40°	4898	4471	4024
45°	4617	4133	3638
50°	4274	3836	3244
55°	3954	3476	2906
60°	3623	3105	2603
65°	3188	2719	2305
70°	2626	2381	1958
75°	2088	1823	1912
80°	1402	1315	1227
85°	874	1048	1223

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4617 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	455.4	4.7
10°-20°	1249.9	13.0
20°-30°	1730.4	18.0
30°-40°	1845.1	19.2
40°-50°	1683.3	17.5
50°-60°	1318.7	13.7
60°-70°	859.5	8.9
70°-80°	380.8	4.0
80°-90°	81.8	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°	3435.8	35.8
0°-40°	5280.9	55.0
0°-60°	8283.0	86.2
0°-90°	9605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9605.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4893	4893	4893	4893	4893	
5°	4808	4802	4802	4796	4796	456
15°	4497	4497	4452	4406	4389	1264
25°	3897	3874	3812	3677	3575	1789
35°	3162	3139	2986	2760	2692	1977
45°	2426	2376	2172	1991	1912	1869
55°	1686	1635	1482	1307	1239	1512
65°	1001	945	854	871	724	987
75°	402	373	351	334	368	430
85°	57	62	68	74	79	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4892.7	4892.7	4892.7	4892.7	4892.7
2.5°	4858.7	4858.7	4858.7	4853.1	4853.1
5°	4807.8	4802.2	4802.2	4796.5	4796.5
7.5°	4768.2	4762.6	4756.9	4751.3	4739.9
10°	4711.7	4711.7	4706.0	4677.7	4672.1
12.5°	4621.2	4615.5	4592.9	4553.3	4542.0
15°	4496.7	4496.7	4451.5	4406.2	4389.3
17.5°	4361.0	4355.3	4298.8	4253.5	4230.9
20°	4213.9	4202.6	4146.0	4072.5	4032.9
22.5°	4049.9	4049.9	3982.0	3885.8	3846.3
25°	3897.2	3874.5	3812.3	3676.6	3574.8
27.5°	3721.8	3687.9	3620.0	3427.7	3308.9
30°	3529.5	3512.5	3416.4	3167.5	3077.0
32.5°	3348.5	3320.2	3218.4	2958.2	2884.7
35°	3161.8	3139.2	2986.5	2760.3	2692.4
37.5°	2975.2	2946.9	2754.6	2573.6	2488.8
40°	2788.5	2754.6	2545.3	2381.3	2290.8
42.5°	2613.2	2567.9	2364.3	2189.0	2087.2
45°	2426.5	2375.6	2172.0	1991.0	1911.8
47.5°	2239.9	2194.6	2008.0	1821.3	1730.8
50°	2041.9	2002.3	1832.6	1646.0	1549.8
52.5°	1877.9	1815.7	1651.6	1465.0	1385.8
55°	1685.6	1634.7	1481.9	1306.6	1238.7
57.5°	1510.2	1459.3	1317.9	1153.9	1097.3
60°	1346.2	1272.7	1153.9	1012.5	967.2
62.5°	1165.2	1108.6	1006.8	888.0	944.6
65°	1001.2	944.6	854.1	871.1	724.0
67.5°	820.2	791.9	712.7	633.5	610.9
70°	667.4	633.5	605.2	520.4	497.8
72.5°	531.7	497.8	458.2	412.9	395.9
75°	401.6	373.3	350.7	333.7	367.7
77.5°	277.2	265.8	248.9	231.9	226.3
80°	181.0	175.3	169.7	164.0	158.4
82.5°	107.5	107.5	107.5	107.5	107.5
85°	56.6	62.2	67.9	73.5	79.2
87.5°	33.9	33.9	39.6	45.3	50.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)