

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: P563365

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563365
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-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8574.0 lumens
Efficiency: N/A
Efficacy: 122.1 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

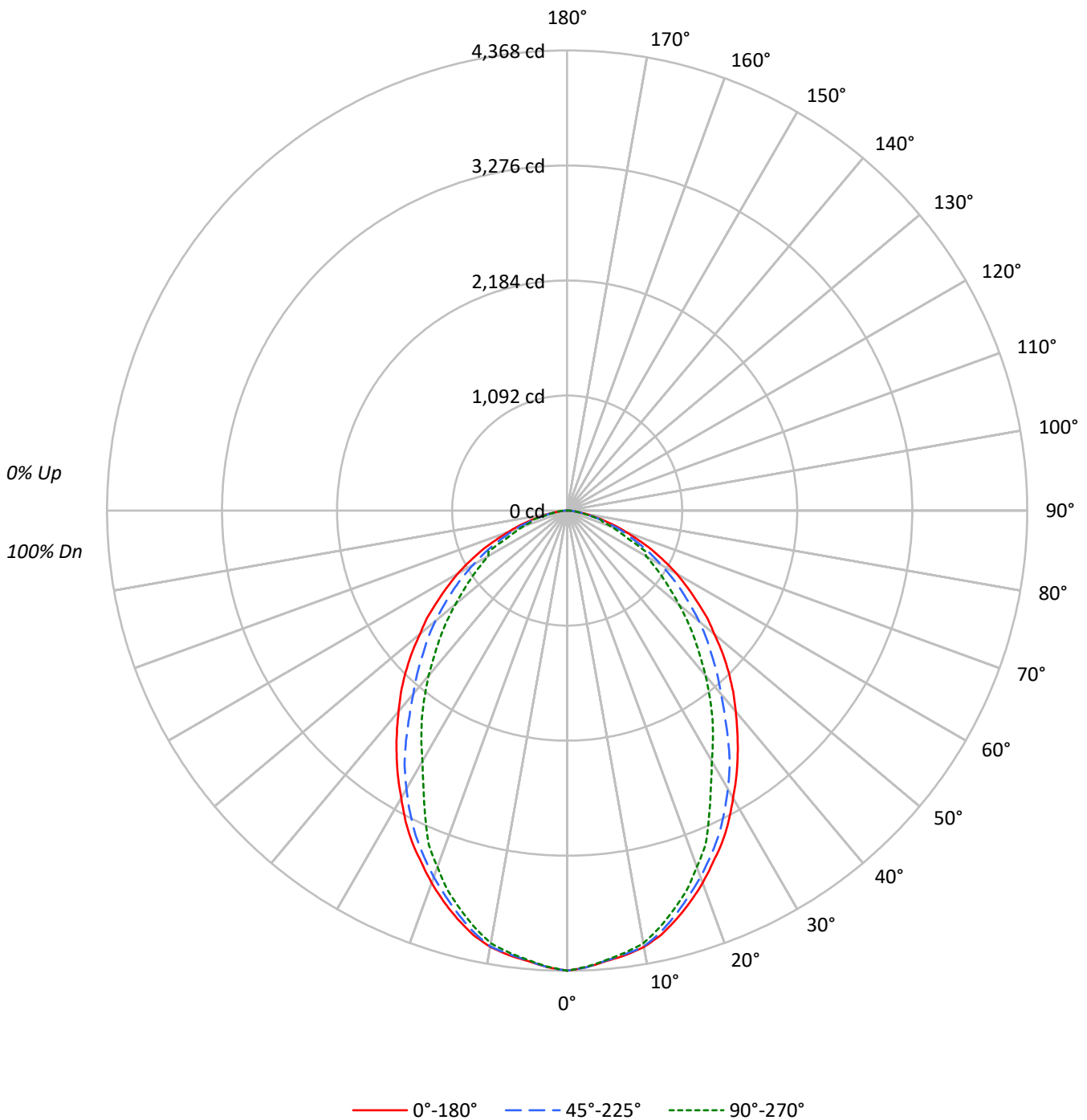
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5876	5876	5876
5°	5796	5790	5783
10°	5746	5739	5698
15°	5591	5535	5458
20°	5386	5299	5155
25°	5165	5052	4737
30°	4895	4738	4267
35°	4636	4379	3948
40°	4372	3991	3592
45°	4122	3689	3247
50°	3815	3424	2896
55°	3529	3103	2594
60°	3234	2772	2323
65°	2845	2427	2058
70°	2344	2126	1748
75°	1864	1627	1706
80°	1252	1174	1096
85°	780	936	1091

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4122 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	406.6	4.7
10°-20°	1115.8	13.0
20°-30°	1544.7	18.0
30°-40°	1647.1	19.2
40°-50°	1502.6	17.5
50°-60°	1177.2	13.7
60°-70°	767.2	8.9
70°-80°	339.9	4.0
80°-90°	73.0	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°	3067.0	35.8
0°-40°	4714.1	55.0
0°-60°	7393.9	86.2
0°-90°	8574.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8574.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4368	4368	4368	4368	4368	
5°	4292	4287	4287	4282	4282	407
15°	4014	4014	3974	3933	3918	1128
25°	3479	3459	3403	3282	3191	1597
35°	2822	2802	2666	2464	2403	1765
45°	2166	2121	1939	1777	1707	1669
55°	1505	1459	1323	1166	1106	1350
65°	894	843	762	778	646	881
75°	358	333	313	298	328	384
85°	50	56	61	66	71	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4367.5	4367.5	4367.5	4367.5	4367.5
2.5°	4337.2	4337.2	4337.2	4332.1	4332.1
5°	4291.7	4286.7	4286.7	4281.6	4281.6
7.5°	4256.4	4251.4	4246.3	4241.3	4231.2
10°	4205.9	4205.9	4200.9	4175.6	4170.6
12.5°	4125.1	4120.1	4099.9	4064.5	4054.4
15°	4014.0	4014.0	3973.7	3933.3	3918.1
17.5°	3892.9	3887.8	3837.3	3796.9	3776.7
20°	3761.6	3751.5	3701.0	3635.4	3600.0
22.5°	3615.2	3615.2	3554.6	3468.7	3433.4
25°	3478.8	3458.6	3403.1	3281.9	3191.0
27.5°	3322.3	3292.0	3231.4	3059.8	2953.7
30°	3150.6	3135.5	3049.7	2827.5	2746.7
32.5°	2989.1	2963.8	2872.9	2640.7	2575.0
35°	2822.5	2802.3	2665.9	2464.0	2403.4
37.5°	2655.8	2630.6	2458.9	2297.3	2221.6
40°	2489.2	2458.9	2272.1	2125.7	2044.9
42.5°	2332.7	2292.3	2110.5	1954.0	1863.1
45°	2166.1	2120.6	1938.9	1777.3	1706.6
47.5°	1999.4	1959.1	1792.4	1625.8	1545.0
50°	1822.7	1787.4	1635.9	1469.3	1383.5
52.5°	1676.3	1620.8	1474.3	1307.7	1237.0
55°	1504.6	1459.2	1322.9	1166.3	1105.8
57.5°	1348.1	1302.7	1176.4	1030.0	979.5
60°	1201.7	1136.0	1030.0	903.8	863.4
62.5°	1040.1	989.6	898.7	792.7	843.2
65°	893.7	843.2	762.4	777.6	646.3
67.5°	732.1	706.9	636.2	565.5	545.3
70°	595.8	565.5	540.3	464.5	444.3
72.5°	474.6	444.3	409.0	368.6	353.4
75°	358.5	333.2	313.0	297.9	328.2
77.5°	247.4	237.3	222.2	207.0	202.0
80°	161.6	156.5	151.5	146.4	141.4
82.5°	95.9	95.9	95.9	95.9	95.9
85°	50.5	55.5	60.6	65.6	70.7
87.5°	30.3	30.3	35.3	40.4	45.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)