

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: P563367

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563367
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-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8295.0 lumens
Efficiency: N/A
Efficacy: 118.2 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

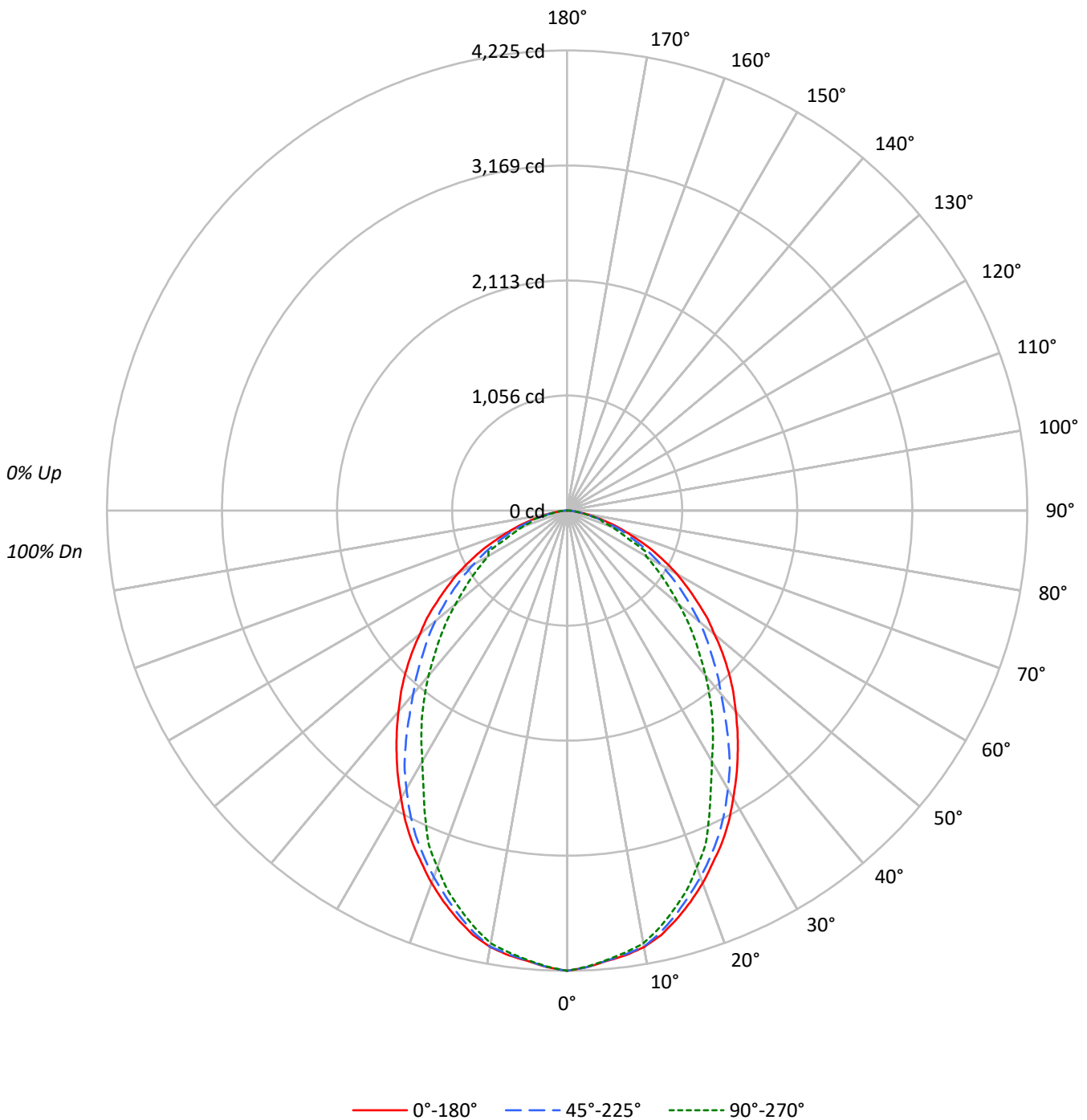
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5685	5685	5685
5°	5608	5601	5595
10°	5559	5553	5513
15°	5409	5355	5280
20°	5211	5127	4987
25°	4997	4888	4583
30°	4736	4584	4128
35°	4485	4236	3819
40°	4230	3861	3475
45°	3988	3569	3142
50°	3691	3313	2802
55°	3415	3002	2510
60°	3129	2682	2248
65°	2753	2348	1991
70°	2268	2056	1691
75°	1803	1575	1651
80°	1211	1135	1060
85°	753	905	1056

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3988 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.3	4.7
10°-20°	1079.4	13.0
20°-30°	1494.4	18.0
30°-40°	1593.5	19.2
40°-50°	1453.7	17.5
50°-60°	1138.9	13.7
60°-70°	742.3	8.9
70°-80°	328.9	4.0
80°-90°	70.6	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°	2967.2	35.8
0°-40°	4560.7	55.0
0°-60°	7153.3	86.2
0°-90°	8295.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8295.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4225	4225	4225	4225	4225	
5°	4152	4147	4147	4142	4142	394
15°	3883	3883	3844	3805	3791	1092
25°	3366	3346	3292	3175	3087	1545
35°	2731	2711	2579	2384	2325	1707
45°	2096	2052	1876	1720	1651	1614
55°	1456	1412	1280	1128	1070	1306
65°	865	816	738	752	625	852
75°	347	322	303	288	318	372
85°	49	54	59	64	68	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4225.4	4225.4	4225.4	4225.4	4225.4
2.5°	4196.1	4196.1	4196.1	4191.2	4191.2
5°	4152.1	4147.2	4147.2	4142.3	4142.3
7.5°	4117.9	4113.0	4108.1	4103.2	4093.5
10°	4069.0	4069.0	4064.2	4039.7	4034.9
12.5°	3990.9	3986.0	3966.5	3932.3	3922.5
15°	3883.4	3883.4	3844.3	3805.3	3790.6
17.5°	3766.2	3761.3	3712.5	3673.4	3653.8
20°	3639.2	3629.4	3580.6	3517.1	3482.9
22.5°	3497.5	3497.5	3438.9	3355.9	3321.7
25°	3365.6	3346.1	3292.4	3175.1	3087.2
27.5°	3214.2	3184.9	3126.3	2960.2	2857.6
30°	3048.1	3033.5	2950.4	2735.5	2657.3
32.5°	2891.8	2867.4	2779.5	2554.8	2491.3
35°	2730.6	2711.1	2579.2	2383.8	2325.2
37.5°	2569.4	2545.0	2378.9	2222.6	2149.3
40°	2408.2	2378.9	2198.2	2056.5	1978.3
42.5°	2256.8	2217.7	2041.9	1890.4	1802.5
45°	2095.6	2051.6	1875.8	1719.5	1651.1
47.5°	1934.4	1895.3	1734.1	1572.9	1494.8
50°	1763.4	1729.2	1582.7	1421.5	1338.4
52.5°	1621.8	1568.0	1426.4	1265.2	1196.8
55°	1455.7	1411.7	1279.8	1128.4	1069.8
57.5°	1304.2	1260.3	1138.2	996.5	947.7
60°	1162.6	1099.1	996.5	874.4	835.3
62.5°	1006.3	957.4	869.5	766.9	815.8
65°	864.6	815.8	737.6	752.3	625.3
67.5°	708.3	683.9	615.5	547.1	527.6
70°	576.4	547.1	522.7	449.4	429.9
72.5°	459.2	429.9	395.7	356.6	341.9
75°	346.8	322.4	302.9	288.2	317.5
77.5°	239.4	229.6	214.9	200.3	195.4
80°	156.3	151.4	146.5	141.7	136.8
82.5°	92.8	92.8	92.8	92.8	92.8
85°	48.8	53.7	58.6	63.5	68.4
87.5°	29.3	29.3	34.2	39.1	44.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)