

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: P563309

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563309
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-35-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8683.0 lumens
Efficiency: N/A
Efficacy: 123.7 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

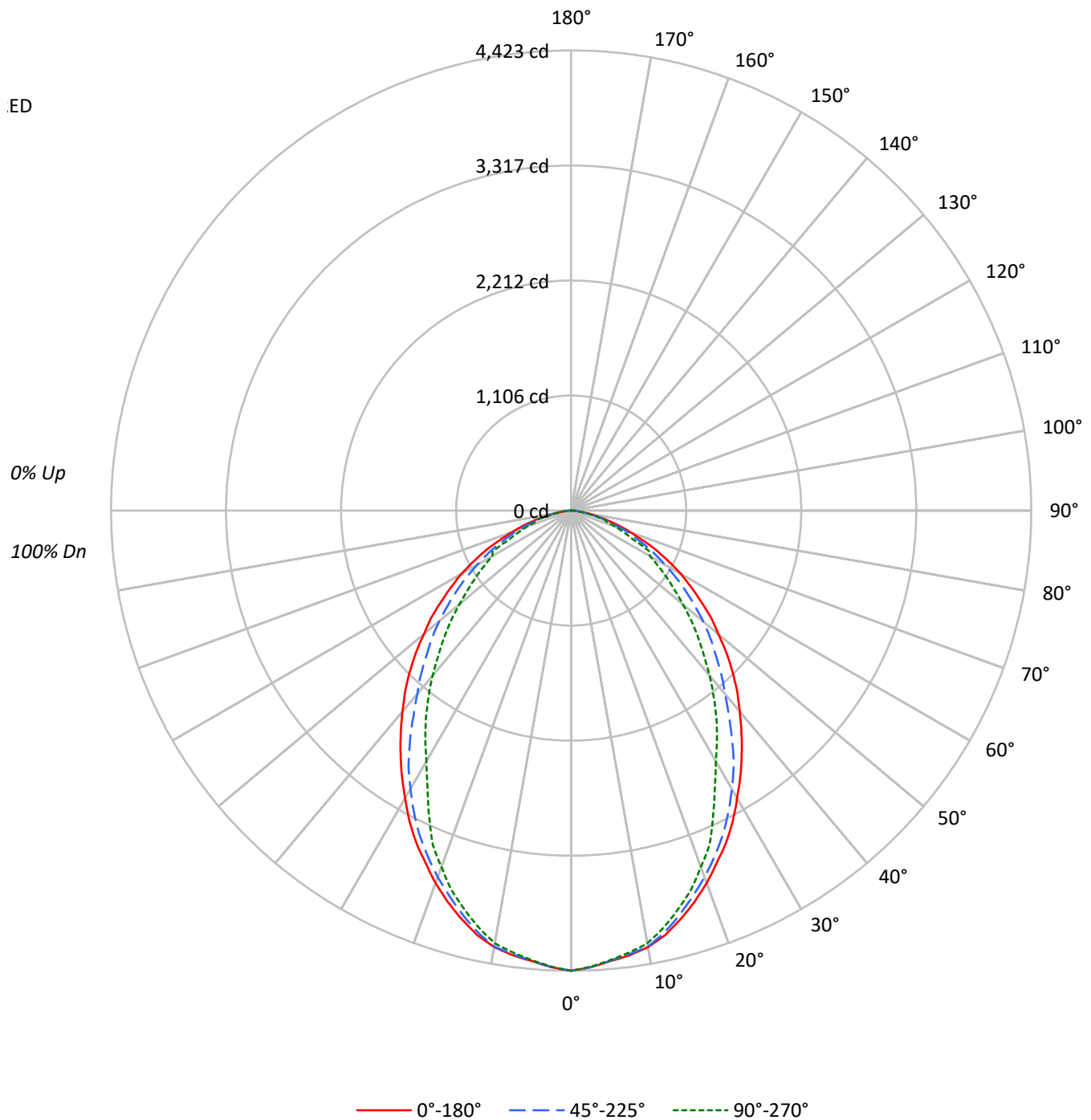
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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°	5951	5951	5951
5°	5870	5863	5856
10°	5819	5812	5770
15°	5662	5606	5527
20°	5454	5367	5220
25°	5230	5116	4798
30°	4957	4798	4322
35°	4695	4435	3998
40°	4428	4042	3637
45°	4174	3736	3289
50°	3864	3468	2933
55°	3575	3143	2627
60°	3275	2807	2353
65°	2882	2458	2084
70°	2374	2152	1770
75°	1887	1648	1728
80°	1268	1189	1110
85°	789	948	1105

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4174 cd/sqm



TEST NUMBER: P563309

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	411.7	4.7
10°-20°	1129.9	13.0
20°-30°	1564.3	18.0
30°-40°	1668.0	19.2
40°-50°	1521.7	17.5
50°-60°	1192.1	13.7
60°-70°	777.0	8.9
70°-80°	344.2	4.0
80°-90°	73.9	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°	3106.0	35.8
0°-40°	4774.0	55.0
0°-60°	7487.9	86.2
0°-90°	8683.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8683.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4423	4423	4423	4423	4423	
5°	4346	4341	4341	4336	4336	413
15°	4065	4065	4024	3983	3968	1143
25°	3523	3503	3446	3324	3232	1617
35°	2858	2838	2700	2495	2434	1787
45°	2194	2148	1964	1800	1728	1690
55°	1524	1478	1340	1181	1120	1367
65°	905	854	772	787	654	892
75°	363	338	317	302	332	389
85°	51	56	61	66	72	71
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4423.0	4423.0	4423.0	4423.0	4423.0
2.5°	4392.3	4392.3	4392.3	4387.2	4387.2
5°	4346.3	4341.2	4341.2	4336.1	4336.1
7.5°	4310.5	4305.4	4300.3	4295.2	4284.9
10°	4259.4	4259.4	4254.3	4228.7	4223.6
12.5°	4177.6	4172.5	4152.0	4116.2	4106.0
15°	4065.1	4065.1	4024.2	3983.3	3967.9
17.5°	3942.4	3937.2	3886.1	3845.2	3824.7
20°	3809.4	3799.2	3748.0	3681.6	3645.8
22.5°	3661.1	3661.1	3599.8	3512.8	3477.0
25°	3523.1	3502.6	3446.4	3323.6	3231.6
27.5°	3364.6	3333.9	3272.5	3098.7	2991.3
30°	3190.7	3175.4	3088.4	2863.4	2781.6
32.5°	3027.1	3001.5	2909.5	2674.3	2607.8
35°	2858.3	2837.9	2699.8	2495.3	2433.9
37.5°	2689.6	2664.0	2490.2	2326.6	2249.9
40°	2520.9	2490.2	2301.0	2152.7	2070.9
42.5°	2362.3	2321.4	2137.4	1978.8	1886.8
45°	2193.6	2147.6	1963.5	1799.9	1728.3
47.5°	2024.9	1984.0	1815.2	1646.5	1564.7
50°	1845.9	1810.1	1656.7	1488.0	1401.0
52.5°	1697.6	1641.4	1493.1	1324.3	1252.8
55°	1523.8	1477.7	1339.7	1181.2	1119.8
57.5°	1365.3	1319.2	1191.4	1043.1	992.0
60°	1217.0	1150.5	1043.1	915.3	874.4
62.5°	1053.3	1002.2	910.2	802.8	853.9
65°	905.1	853.9	772.1	787.4	654.5
67.5°	741.4	715.9	644.3	572.7	552.2
70°	603.4	572.7	547.1	470.4	450.0
72.5°	480.7	450.0	414.2	373.3	357.9
75°	363.0	337.5	317.0	301.7	332.4
77.5°	250.6	240.3	225.0	209.6	204.5
80°	163.6	158.5	153.4	148.3	143.2
82.5°	97.2	97.2	97.2	97.2	97.2
85°	51.1	56.2	61.4	66.5	71.6
87.5°	30.7	30.7	35.8	40.9	46.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)