

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: P563407

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563407
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-50-UNV-81-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8152.0 lumens
Efficiency: N/A
Efficacy: 116.1 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

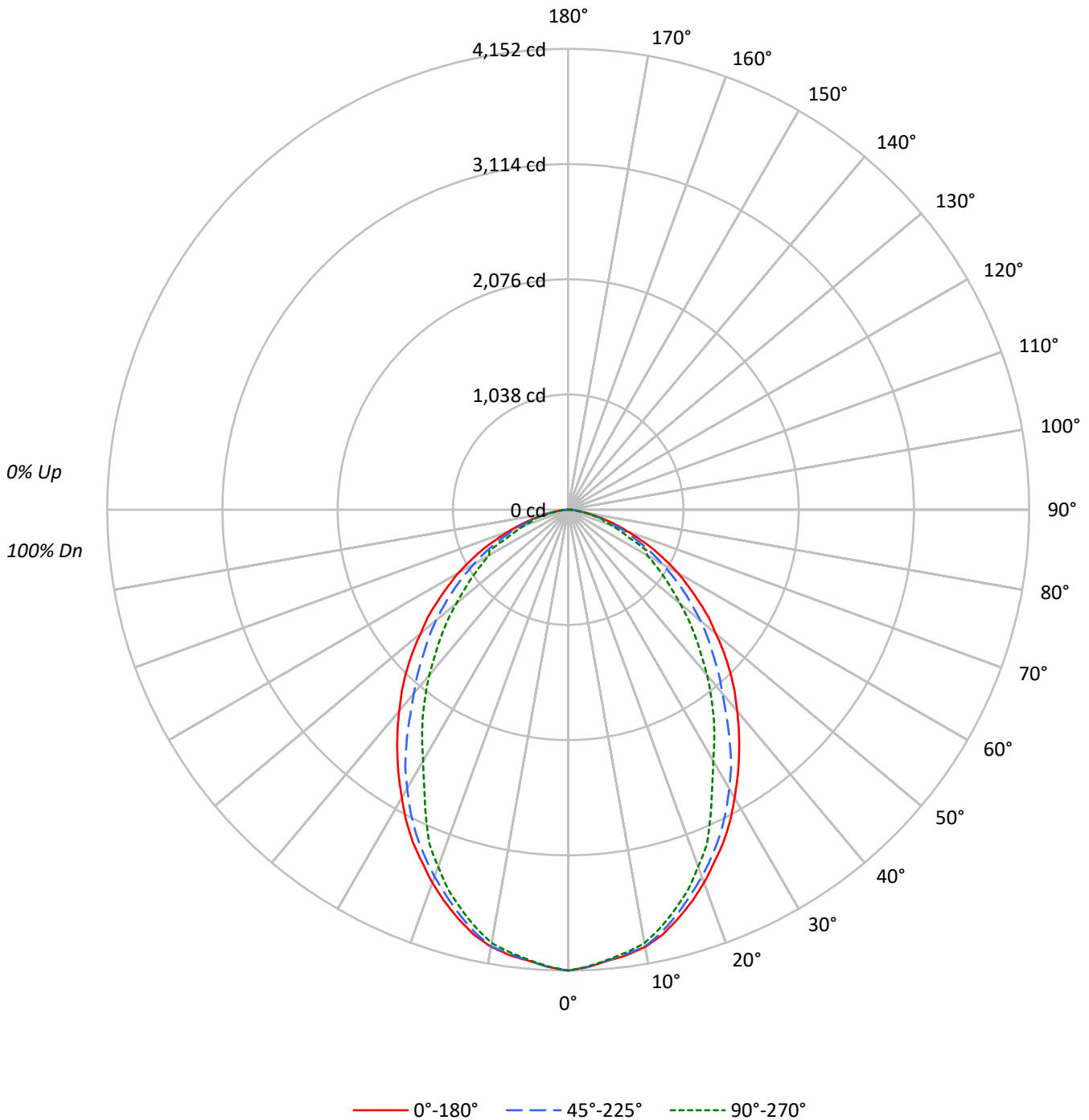
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5587	5587	5587
5°	5511	5505	5498
10°	5463	5457	5418
15°	5316	5263	5189
20°	5121	5038	4901
25°	4910	4804	4504
30°	4654	4505	4057
35°	4408	4163	3753
40°	4157	3794	3415
45°	3919	3508	3087
50°	3628	3256	2753
55°	3356	2951	2466
60°	3074	2635	2209
65°	2705	2308	1956
70°	2229	2021	1662
75°	1772	1547	1622
80°	1190	1116	1041
85°	741	889	1037

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3919 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.5	4.7
10°-20°	1060.8	13.0
20°-30°	1468.7	18.0
30°-40°	1566.0	19.2
40°-50°	1428.7	17.5
50°-60°	1119.2	13.7
60°-70°	729.5	8.9
70°-80°	323.2	4.0
80°-90°	69.4	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°	2916.0	35.8
0°-40°	4482.1	55.0
0°-60°	7030.0	86.2
0°-90°	8152.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8152.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4152	4152	4152	4152	4152	
5°	4080	4076	4076	4071	4071	387
15°	3816	3816	3778	3740	3725	1073
25°	3308	3288	3236	3120	3034	1519
35°	2684	2664	2535	2343	2285	1678
45°	2060	2016	1843	1690	1623	1586
55°	1431	1387	1258	1109	1051	1283
65°	850	802	725	739	614	837
75°	341	317	298	283	312	365
85°	48	53	58	62	67	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4152.5	4152.5	4152.5	4152.5	4152.5
2.5°	4123.7	4123.7	4123.7	4118.9	4118.9
5°	4080.5	4075.7	4075.7	4070.9	4070.9
7.5°	4046.9	4042.1	4037.3	4032.5	4022.9
10°	3998.9	3998.9	3994.1	3970.1	3965.3
12.5°	3922.1	3917.3	3898.1	3864.5	3854.9
15°	3816.5	3816.5	3778.1	3739.7	3725.3
17.5°	3701.3	3696.5	3648.5	3610.1	3590.8
20°	3576.4	3566.8	3518.8	3456.4	3422.8
22.5°	3437.2	3437.2	3379.6	3298.0	3264.4
25°	3307.6	3288.4	3235.6	3120.4	3034.0
27.5°	3158.8	3130.0	3072.4	2909.2	2808.4
30°	2995.6	2981.2	2899.6	2688.3	2611.5
32.5°	2842.0	2818.0	2731.5	2510.7	2448.3
35°	2683.5	2664.3	2534.7	2342.7	2285.1
37.5°	2525.1	2501.1	2337.9	2184.3	2112.3
40°	2366.7	2337.9	2160.3	2021.1	1944.2
42.5°	2217.9	2179.5	2006.7	1857.8	1771.4
45°	2059.5	2016.3	1843.4	1689.8	1622.6
47.5°	1901.0	1862.6	1704.2	1545.8	1469.0
50°	1733.0	1699.4	1555.4	1397.0	1315.4
52.5°	1593.8	1541.0	1401.8	1243.4	1176.1
55°	1430.6	1387.4	1257.8	1108.9	1051.3
57.5°	1281.8	1238.6	1118.5	979.3	931.3
60°	1142.5	1080.1	979.3	859.3	820.9
62.5°	988.9	940.9	854.5	753.7	801.7
65°	849.7	801.7	724.9	739.3	614.5
67.5°	696.1	672.1	604.9	537.7	518.5
70°	566.5	537.7	513.7	441.7	422.5
72.5°	451.3	422.5	388.8	350.4	336.0
75°	340.8	316.8	297.6	283.2	312.0
77.5°	235.2	225.6	211.2	196.8	192.0
80°	153.6	148.8	144.0	139.2	134.4
82.5°	91.2	91.2	91.2	91.2	91.2
85°	48.0	52.8	57.6	62.4	67.2
87.5°	28.8	28.8	33.6	38.4	43.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)