

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: P563432

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563432
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-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6609.0 lumens
Efficiency: N/A
Efficacy: 94.1 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

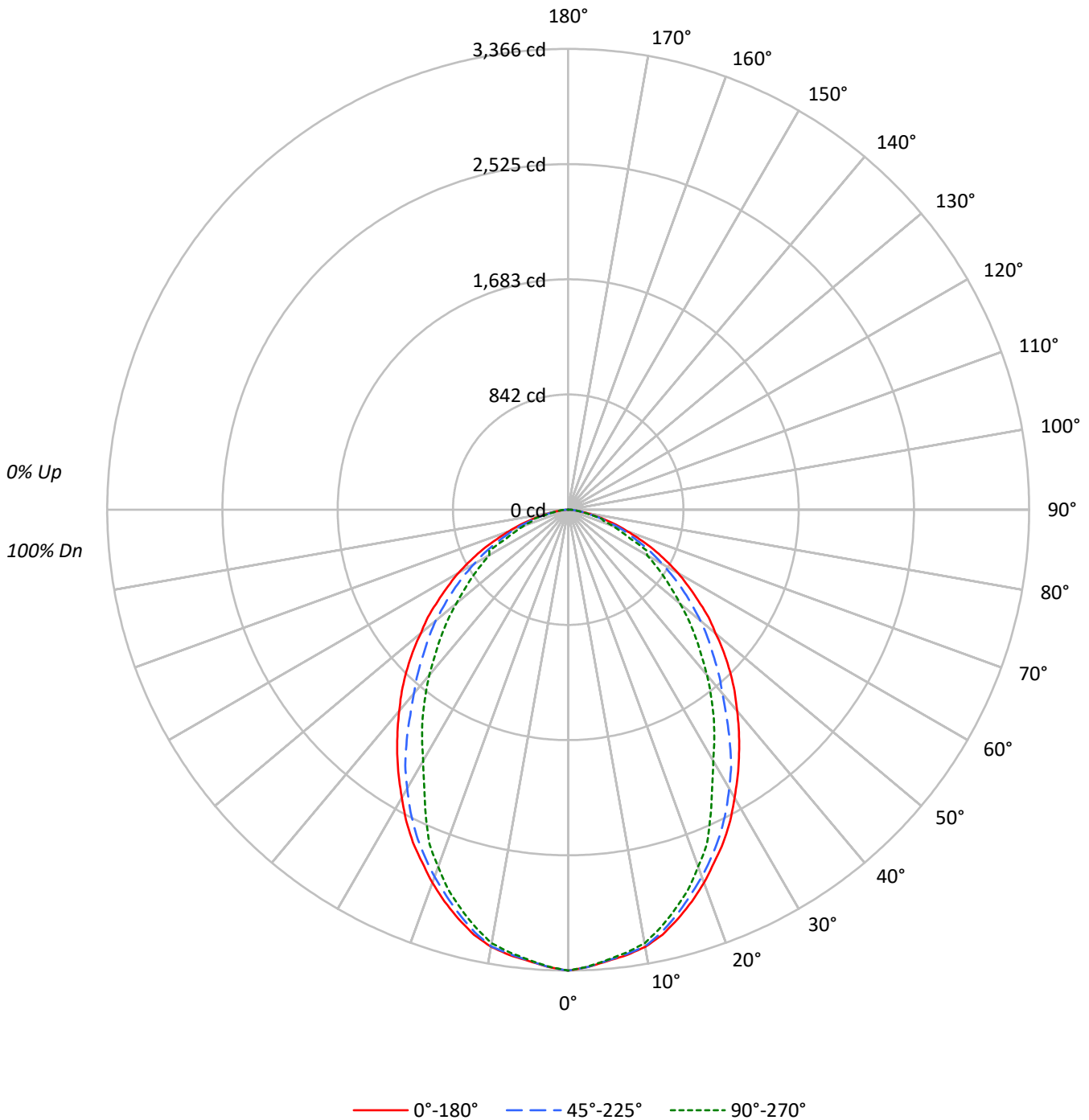
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4530	4530	4530
5°	4468	4463	4458
10°	4429	4424	4392
15°	4310	4267	4207
20°	4152	4085	3973
25°	3981	3894	3652
30°	3773	3652	3289
35°	3574	3375	3043
40°	3370	3076	2768
45°	3177	2844	2503
50°	2941	2640	2232
55°	2721	2392	1999
60°	2493	2137	1791
65°	2193	1871	1586
70°	1807	1638	1347
75°	1436	1254	1315
80°	965	905	845
85°	601	721	841

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3177 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.4	4.7
10°-20°	860.0	13.0
20°-30°	1190.7	18.0
30°-40°	1269.6	19.2
40°-50°	1158.2	17.5
50°-60°	907.4	13.7
60°-70°	591.4	8.9
70°-80°	262.0	4.0
80°-90°	56.2	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°	2364.1	35.8
0°-40°	3633.7	55.0
0°-60°	5699.3	86.2
0°-90°	6609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6609.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3366	3366	3366	3366	3366	
5°	3308	3304	3304	3300	3300	314
15°	3094	3094	3063	3032	3020	870
25°	2682	2666	2623	2530	2460	1231
35°	2176	2160	2055	1899	1853	1360
45°	1670	1635	1494	1370	1316	1286
55°	1160	1125	1020	899	852	1040
65°	689	650	588	599	498	679
75°	276	257	241	230	253	296
85°	39	43	47	51	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3366.5	3366.5	3366.5	3366.5	3366.5
2.5°	3343.2	3343.2	3343.2	3339.3	3339.3
5°	3308.2	3304.3	3304.3	3300.4	3300.4
7.5°	3280.9	3277.0	3273.1	3269.2	3261.5
10°	3242.0	3242.0	3238.1	3218.6	3214.8
12.5°	3179.7	3175.8	3160.3	3133.0	3125.2
15°	3094.1	3094.1	3063.0	3031.8	3020.2
17.5°	3000.7	2996.8	2957.9	2926.7	2911.2
20°	2899.5	2891.7	2852.8	2802.2	2775.0
22.5°	2786.6	2786.6	2739.9	2673.8	2646.5
25°	2681.6	2666.0	2623.2	2529.8	2459.7
27.5°	2560.9	2537.6	2490.8	2358.5	2276.8
30°	2428.6	2416.9	2350.7	2179.5	2117.2
32.5°	2304.0	2284.6	2214.5	2035.5	1984.9
35°	2175.6	2160.0	2054.9	1899.3	1852.6
37.5°	2047.2	2027.7	1895.4	1770.8	1712.5
40°	1918.7	1895.4	1751.4	1638.5	1576.2
42.5°	1798.1	1766.9	1626.8	1506.2	1436.1
45°	1669.6	1634.6	1494.5	1370.0	1315.5
47.5°	1541.2	1510.1	1381.6	1253.2	1190.9
50°	1405.0	1377.8	1261.0	1132.6	1066.4
52.5°	1292.1	1249.3	1136.4	1008.0	953.5
55°	1159.8	1124.8	1019.7	899.0	852.3
57.5°	1039.2	1004.1	906.8	794.0	755.0
60°	926.3	875.7	794.0	696.7	665.5
62.5°	801.7	762.8	692.8	611.0	650.0
65°	688.9	650.0	587.7	599.4	498.2
67.5°	564.3	544.9	490.4	435.9	420.3
70°	459.3	435.9	416.4	358.1	342.5
72.5°	365.8	342.5	315.2	284.1	272.4
75°	276.3	256.9	241.3	229.6	253.0
77.5°	190.7	182.9	171.2	159.6	155.7
80°	124.5	120.7	116.8	112.9	109.0
82.5°	73.9	73.9	73.9	73.9	73.9
85°	38.9	42.8	46.7	50.6	54.5
87.5°	23.4	23.4	27.2	31.1	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)