

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: P563341

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563341
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-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8315.0 lumens
Efficiency: N/A
Efficacy: 118.4 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

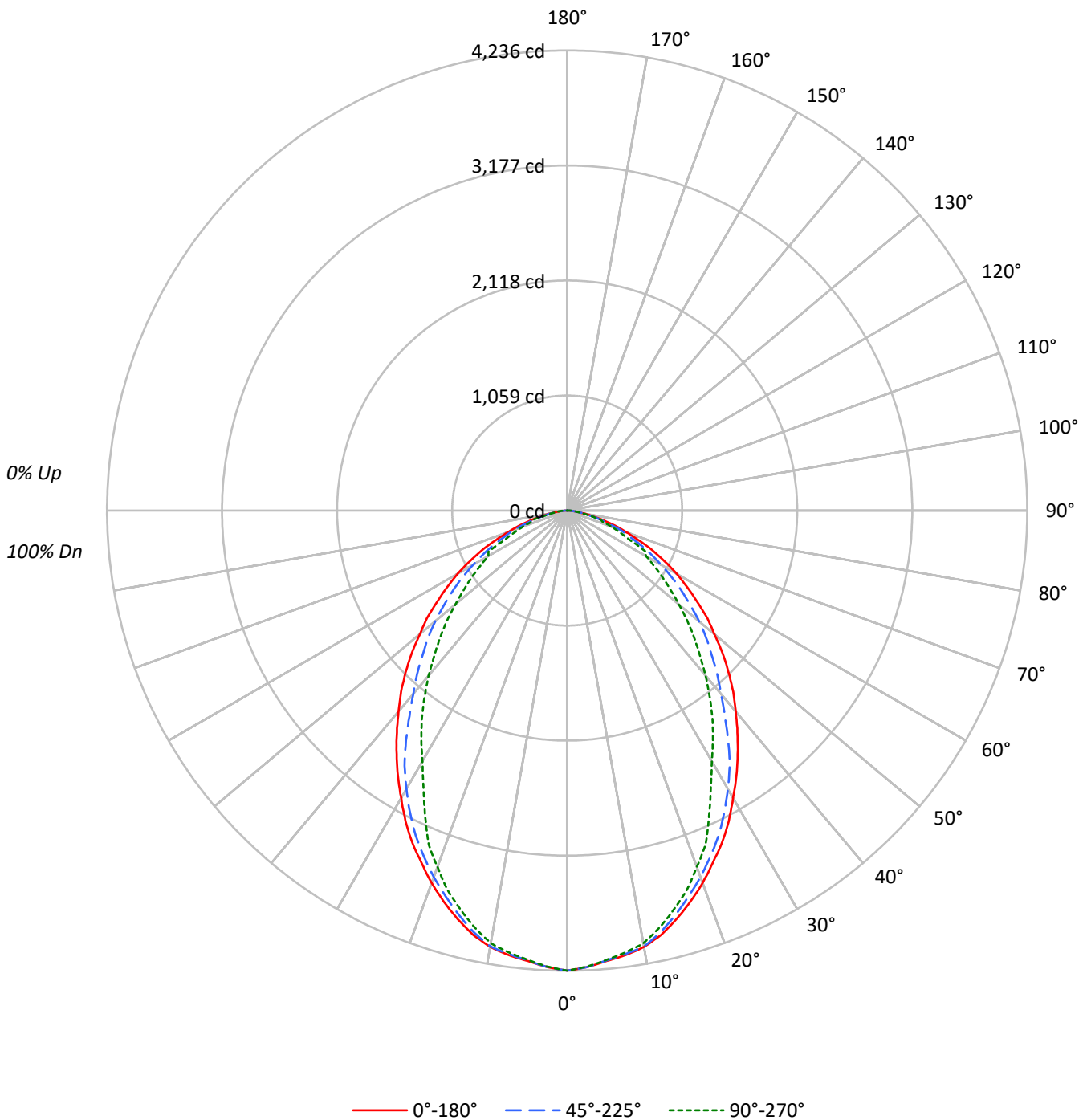
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	5699	5699	5699
5°	5621	5615	5608
10°	5573	5566	5526
15°	5422	5368	5293
20°	5223	5139	4999
25°	5009	4900	4594
30°	4747	4595	4138
35°	4496	4247	3828
40°	4240	3870	3483
45°	3997	3578	3149
50°	3700	3321	2808
55°	3423	3009	2516
60°	3136	2688	2253
65°	2759	2354	1996
70°	2273	2061	1695
75°	1808	1578	1655
80°	1214	1138	1062
85°	756	908	1059

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3997 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	394.3	4.7
10°-20°	1082.0	13.0
20°-30°	1498.0	18.0
30°-40°	1597.3	19.2
40°-50°	1457.2	17.5
50°-60°	1141.6	13.7
60°-70°	744.1	8.9
70°-80°	329.7	4.0
80°-90°	70.8	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°	2974.3	35.8
0°-40°	4571.7	55.0
0°-60°	7170.5	86.2
0°-90°	8315.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8315.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4236	4236	4236	4236	4236	
5°	4162	4157	4157	4152	4152	395
15°	3893	3893	3854	3814	3800	1094
25°	3374	3354	3300	3183	3095	1549
35°	2737	2718	2585	2390	2331	1711
45°	2101	2057	1880	1724	1655	1618
55°	1459	1415	1283	1131	1072	1309
65°	867	818	739	754	627	854
75°	348	323	304	289	318	373
85°	49	54	59	64	69	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4235.5	4235.5	4235.5	4235.5	4235.5
2.5°	4206.2	4206.2	4206.2	4201.3	4201.3
5°	4162.1	4157.2	4157.2	4152.3	4152.3
7.5°	4127.8	4122.9	4118.0	4113.1	4103.3
10°	4078.9	4078.9	4074.0	4049.5	4044.6
12.5°	4000.5	3995.6	3976.0	3941.8	3932.0
15°	3892.8	3892.8	3853.6	3814.4	3799.8
17.5°	3775.3	3770.4	3721.4	3682.2	3662.6
20°	3648.0	3638.2	3589.2	3525.5	3491.3
22.5°	3506.0	3506.0	3447.2	3364.0	3329.7
25°	3373.8	3354.2	3300.3	3182.8	3094.6
27.5°	3222.0	3192.6	3133.8	2967.3	2864.5
30°	3055.5	3040.8	2957.5	2742.1	2663.7
32.5°	2898.8	2874.3	2786.2	2560.9	2497.3
35°	2737.2	2717.6	2585.4	2389.5	2330.8
37.5°	2575.6	2551.1	2384.6	2227.9	2154.5
40°	2414.0	2384.6	2203.5	2061.5	1983.1
42.5°	2262.2	2223.1	2046.8	1895.0	1806.8
45°	2100.6	2056.6	1880.3	1723.6	1655.0
47.5°	1939.0	1899.9	1738.3	1576.7	1498.4
50°	1767.7	1733.4	1586.5	1424.9	1341.7
52.5°	1625.7	1571.8	1429.8	1268.2	1199.7
55°	1459.2	1415.1	1282.9	1131.1	1072.4
57.5°	1307.4	1263.3	1140.9	998.9	949.9
60°	1165.4	1101.7	998.9	876.5	837.3
62.5°	1008.7	959.7	871.6	768.8	817.7
65°	866.7	817.7	739.4	754.1	626.8
67.5°	710.0	685.5	617.0	548.4	528.8
70°	577.8	548.4	523.9	450.5	430.9
72.5°	460.3	430.9	396.6	357.5	342.8
75°	347.7	323.2	303.6	288.9	318.3
77.5°	239.9	230.1	215.4	200.8	195.9
80°	156.7	151.8	146.9	142.0	137.1
82.5°	93.0	93.0	93.0	93.0	93.0
85°	49.0	53.9	58.8	63.7	68.6
87.5°	29.4	29.4	34.3	39.2	44.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)