

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: P563722

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563722
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-LD4-4HI-40-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15471.0 lumens
Efficiency: N/A
Efficacy: 89.5 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

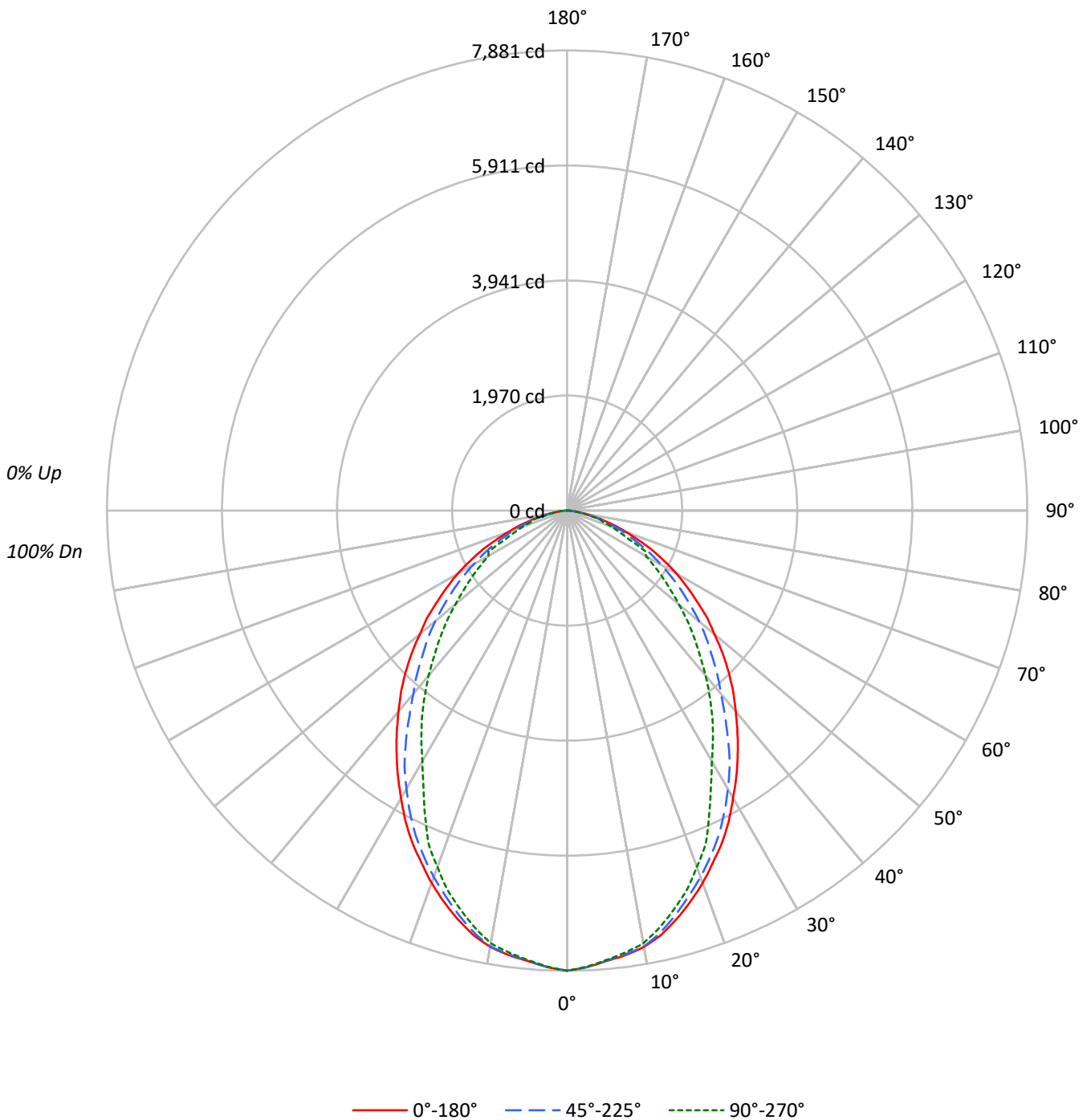
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10603	10603	10603
5°	10459	10447	10435
10°	10369	10356	10282
15°	10089	9988	9848
20°	9718	9562	9301
25°	9319	9116	8548
30°	8833	8549	7700
35°	8365	7901	7123
40°	7889	7201	6481
45°	7437	6657	5860
50°	6884	6179	5225
55°	6369	5599	4680
60°	5835	5001	4192
65°	5134	4380	3713
70°	4229	3835	3154
75°	3363	2937	3079
80°	2259	2118	1977
85°	1406	1687	1968

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7437 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	733.6	4.7
10°-20°	2013.3	13.0
20°-30°	2787.2	18.0
30°-40°	2972.0	19.2
40°-50°	2711.3	17.5
50°-60°	2124.1	13.7
60°-70°	1384.4	8.9
70°-80°	613.3	4.0
80°-90°	131.7	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°	5534.1	35.8
0°-40°	8506.1	55.0
0°-60°	13341.6	86.2
0°-90°	15471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15471.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7881	7881	7881	7881	7881	
5°	7744	7735	7735	7726	7726	735
15°	7243	7243	7170	7097	7070	2036
25°	6277	6241	6141	5922	5758	2882
35°	5093	5056	4810	4446	4337	3184
45°	3908	3826	3498	3207	3079	3011
55°	2715	2633	2387	2105	1995	2435
65°	1613	1522	1376	1403	1166	1589
75°	647	601	565	538	592	693
85°	91	100	109	118	128	126
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7880.7	7880.7	7880.7	7880.7	7880.7
2.5°	7826.1	7826.1	7826.1	7816.9	7816.9
5°	7744.1	7735.0	7735.0	7725.8	7725.8
7.5°	7680.3	7671.2	7662.1	7653.0	7634.7
10°	7589.2	7589.2	7580.1	7534.5	7525.4
12.5°	7443.4	7434.3	7397.9	7334.1	7315.9
15°	7243.0	7243.0	7170.1	7097.2	7069.9
17.5°	7024.3	7015.2	6924.1	6851.2	6814.8
20°	6787.4	6769.2	6678.1	6559.7	6495.9
22.5°	6523.2	6523.2	6413.9	6259.0	6195.2
25°	6277.2	6240.8	6140.6	5921.9	5757.9
27.5°	5994.8	5940.2	5830.8	5521.1	5329.7
30°	5685.1	5657.7	5502.8	5102.0	4956.2
32.5°	5393.5	5348.0	5184.0	4764.9	4646.4
35°	5092.9	5056.4	4810.4	4446.0	4336.7
37.5°	4792.2	4746.7	4436.9	4145.4	4008.7
40°	4491.6	4436.9	4099.8	3835.6	3689.8
42.5°	4209.1	4136.2	3808.3	3525.8	3361.8
45°	3908.5	3826.5	3498.5	3207.0	3079.4
47.5°	3607.8	3534.9	3234.3	2933.6	2787.9
50°	3288.9	3225.2	2951.9	2651.2	2496.3
52.5°	3024.7	2924.5	2660.3	2359.7	2232.1
55°	2715.0	2633.0	2387.0	2104.6	1995.2
57.5°	2432.5	2350.6	2122.8	1858.6	1767.5
60°	2168.3	2049.9	1858.6	1630.8	1557.9
62.5°	1876.8	1785.7	1621.7	1430.4	1521.5
65°	1612.6	1521.5	1375.7	1403.0	1166.2
67.5°	1321.0	1275.5	1147.9	1020.4	984.0
70°	1075.1	1020.4	974.8	838.2	801.7
72.5°	856.4	801.7	738.0	665.1	637.7
75°	646.9	601.3	564.9	537.5	592.2
77.5°	446.4	428.2	400.9	373.5	364.4
80°	291.5	282.4	273.3	264.2	255.1
82.5°	173.1	173.1	173.1	173.1	173.1
85°	91.1	100.2	109.3	118.4	127.5
87.5°	54.7	54.7	63.8	72.9	82.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)