

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: P563201

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563201
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-LD4-3HI-50-UNV-81-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14012.0 lumens
Efficiency: N/A
Efficacy: 108.1 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

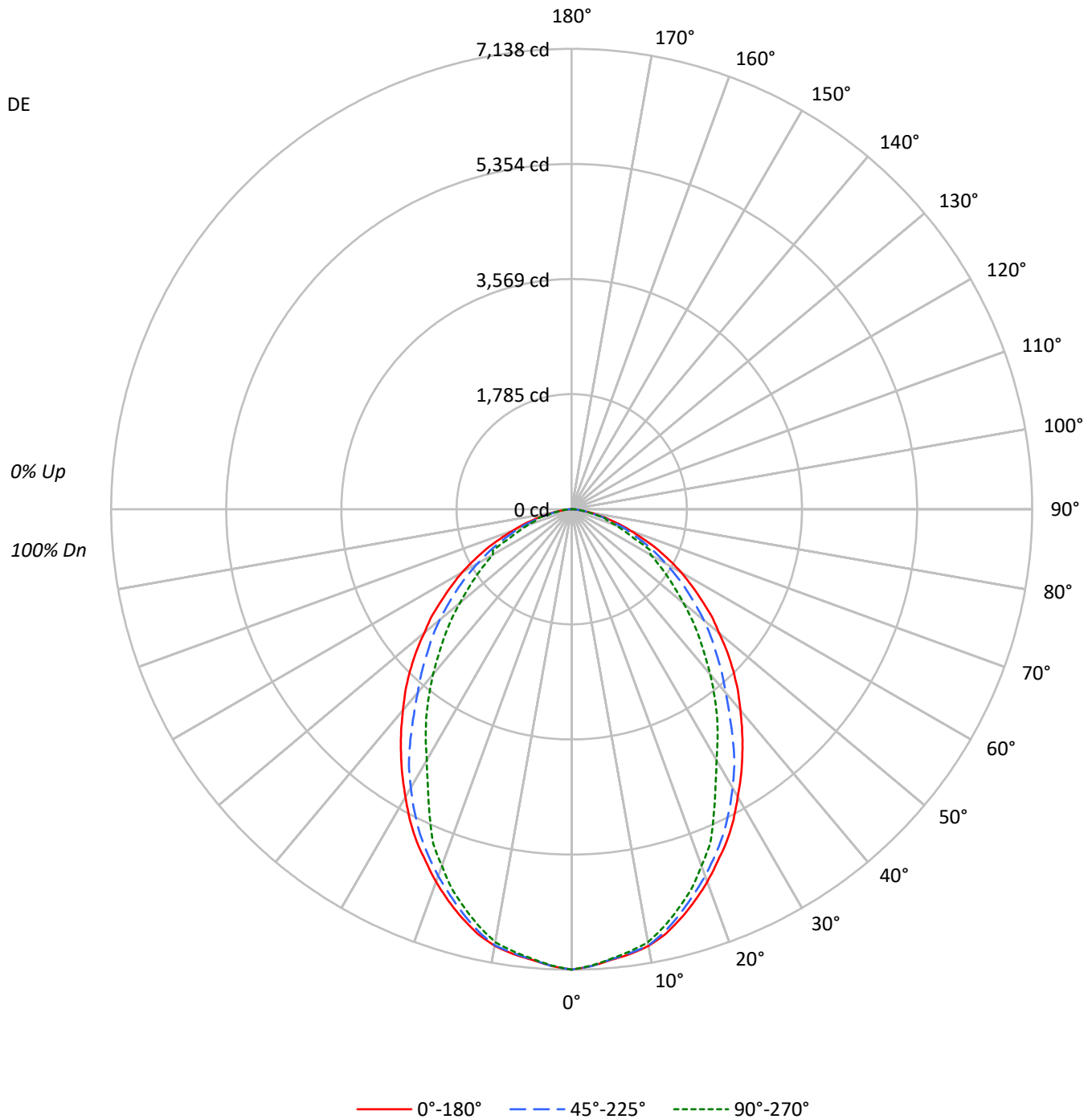
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9603	9603	9603
5°	9473	9462	9451
10°	9391	9380	9312
15°	9138	9046	8919
20°	8802	8660	8424
25°	8440	8257	7742
30°	8000	7743	6974
35°	7576	7156	6451
40°	7145	6522	5870
45°	6736	6029	5307
50°	6235	5596	4733
55°	5768	5071	4239
60°	5285	4530	3797
65°	4650	3967	3363
70°	3830	3473	2856
75°	3046	2660	2788
80°	2046	1918	1790
85°	1274	1528	1783

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6736 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	664.4	4.7
10°-20°	1823.4	13.0
20°-30°	2524.4	18.0
30°-40°	2691.7	19.2
40°-50°	2455.7	17.5
50°-60°	1923.8	13.7
60°-70°	1253.9	8.9
70°-80°	555.5	4.0
80°-90°	119.3	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°	5012.2	35.8
0°-40°	7703.9	55.0
0°-60°	12083.4	86.2
0°-90°	14012.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14012.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7138	7138	7138	7138	7138	
5°	7014	7006	7006	6997	6997	666
15°	6560	6560	6494	6428	6403	1844
25°	5685	5652	5562	5364	5215	2610
35°	4613	4580	4357	4027	3928	2884
45°	3540	3466	3169	2904	2789	2727
55°	2459	2385	2162	1906	1807	2205
65°	1460	1378	1246	1271	1056	1439
75°	586	545	512	487	536	628
85°	82	91	99	107	116	114
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7137.5	7137.5	7137.5	7137.5	7137.5
2.5°	7088.0	7088.0	7088.0	7079.8	7079.8
5°	7013.8	7005.5	7005.5	6997.3	6997.3
7.5°	6956.0	6947.7	6939.5	6931.2	6914.7
10°	6873.5	6873.5	6865.2	6824.0	6815.7
12.5°	6741.5	6733.2	6700.2	6642.4	6625.9
15°	6559.9	6559.9	6493.9	6427.9	6403.1
17.5°	6361.9	6353.6	6271.1	6205.1	6172.1
20°	6147.3	6130.8	6048.3	5941.1	5883.3
22.5°	5908.1	5908.1	5809.0	5668.8	5611.0
25°	5685.3	5652.3	5561.5	5363.5	5214.9
27.5°	5429.5	5380.0	5280.9	5000.4	4827.1
30°	5148.9	5124.2	4983.9	4620.8	4488.8
32.5°	4884.9	4843.6	4695.1	4315.5	4208.3
35°	4612.6	4579.6	4356.8	4026.7	3927.7
37.5°	4340.3	4299.0	4018.5	3754.4	3630.6
40°	4068.0	4018.5	3713.2	3473.9	3341.8
42.5°	3812.2	3746.2	3449.1	3193.3	3044.8
45°	3539.9	3465.6	3168.6	2904.5	2789.0
47.5°	3267.6	3201.6	2929.3	2657.0	2525.0
50°	2978.8	2921.0	2673.5	2401.2	2260.9
52.5°	2739.5	2648.7	2409.4	2137.1	2021.6
55°	2458.9	2384.7	2161.9	1906.1	1807.1
57.5°	2203.1	2128.9	1922.6	1683.3	1600.8
60°	1963.9	1856.6	1683.3	1477.0	1411.0
62.5°	1699.8	1617.3	1468.8	1295.5	1378.0
65°	1460.5	1378.0	1246.0	1270.7	1056.2
67.5°	1196.5	1155.2	1039.7	924.2	891.2
70°	973.7	924.2	882.9	759.1	726.1
72.5°	775.6	726.1	668.4	602.4	577.6
75°	585.9	544.6	511.6	486.8	536.3
77.5°	404.3	387.8	363.1	338.3	330.1
80°	264.0	255.8	247.5	239.3	231.0
82.5°	156.8	156.8	156.8	156.8	156.8
85°	82.5	90.8	99.0	107.3	115.5
87.5°	49.5	49.5	57.8	66.0	74.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)