

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: P561801

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561801
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-12-4-LD4-2STD-40-UNV-81-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5382.0 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

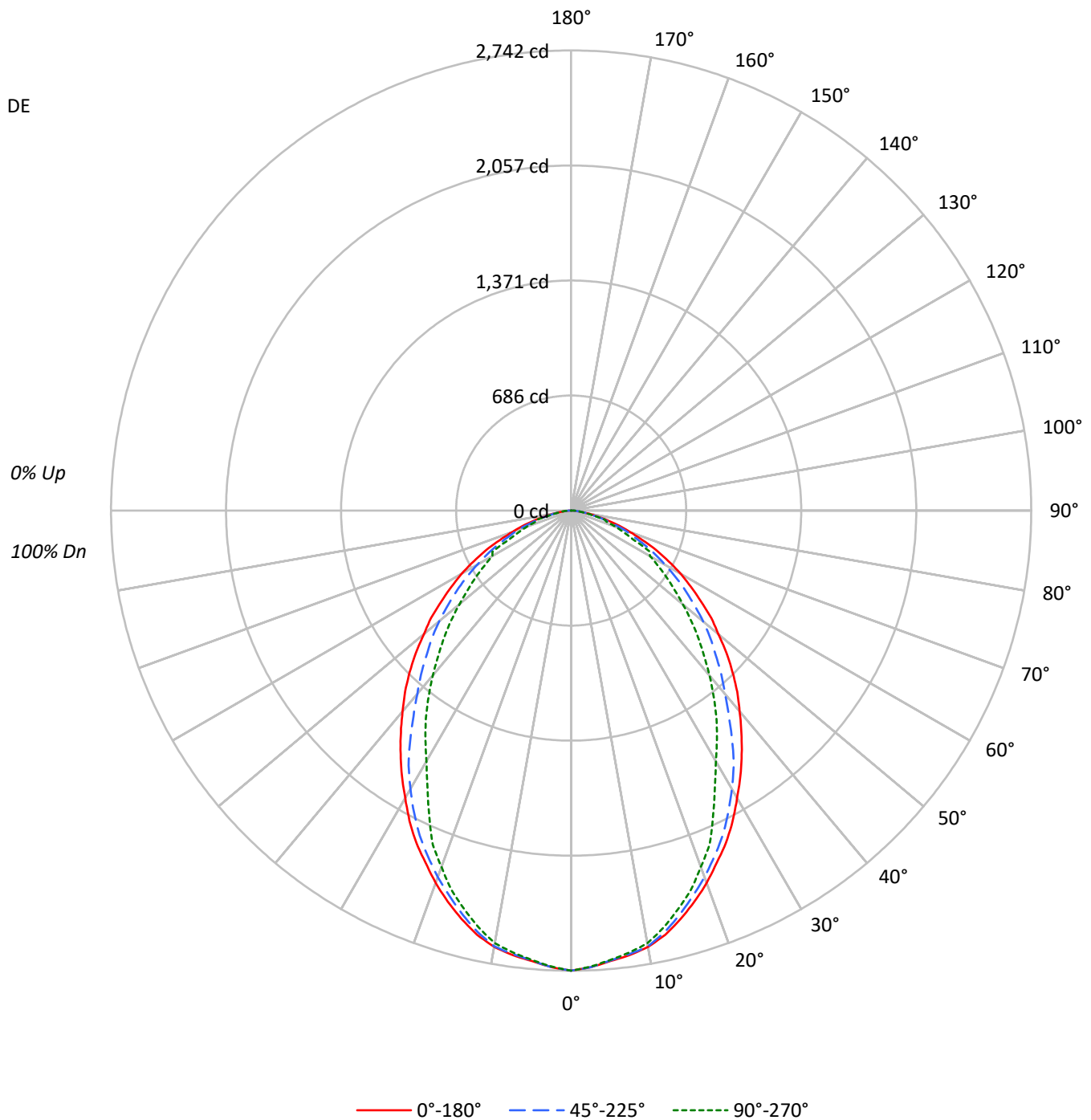
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	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°	7377	7377	7377
5°	7277	7269	7260
10°	7214	7205	7153
15°	7020	6949	6852
20°	6762	6653	6471
25°	6484	6343	5948
30°	6145	5948	5357
35°	5820	5497	4956
40°	5489	5010	4509
45°	5174	4631	4077
50°	4790	4299	3635
55°	4431	3896	3256
60°	4060	3480	2917
65°	3572	3047	2583
70°	2943	2668	2194
75°	2339	2043	2142
80°	1571	1474	1375
85°	979	1173	1371

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5174 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.2	4.7
10°-20°	700.4	13.0
20°-30°	969.6	18.0
30°-40°	1033.9	19.2
40°-50°	943.2	17.5
50°-60°	738.9	13.7
60°-70°	481.6	8.9
70°-80°	213.4	4.0
80°-90°	45.8	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°	1925.2	35.8
0°-40°	2959.1	55.0
0°-60°	4641.2	86.2
0°-90°	5382.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5382.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2742	2742	2742	2742	2742	
5°	2694	2691	2691	2688	2688	256
15°	2520	2520	2494	2469	2459	708
25°	2184	2171	2136	2060	2003	1003
35°	1772	1759	1673	1547	1509	1108
45°	1360	1331	1217	1116	1071	1047
55°	944	916	830	732	694	847
65°	561	529	479	488	406	553
75°	225	209	196	187	206	241
85°	32	35	38	41	44	44
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2741.5	2741.5	2741.5	2741.5	2741.5
2.5°	2722.5	2722.5	2722.5	2719.3	2719.3
5°	2694.0	2690.8	2690.8	2687.6	2687.6
7.5°	2671.8	2668.6	2665.5	2662.3	2655.9
10°	2640.1	2640.1	2636.9	2621.1	2617.9
12.5°	2589.4	2586.2	2573.5	2551.4	2545.0
15°	2519.7	2519.7	2494.3	2469.0	2459.4
17.5°	2443.6	2440.4	2408.7	2383.4	2370.7
20°	2361.2	2354.9	2323.2	2282.0	2259.8
22.5°	2269.3	2269.3	2231.2	2177.4	2155.2
25°	2183.7	2171.0	2136.2	2060.1	2003.1
27.5°	2085.5	2066.4	2028.4	1920.6	1854.1
30°	1977.7	1968.2	1914.3	1774.9	1724.1
32.5°	1876.3	1860.4	1803.4	1657.6	1616.4
35°	1771.7	1759.0	1673.4	1546.7	1508.6
37.5°	1667.1	1651.3	1543.5	1442.1	1394.5
40°	1562.5	1543.5	1426.2	1334.3	1283.6
42.5°	1464.3	1438.9	1324.8	1226.6	1169.5
45°	1359.7	1331.1	1217.0	1115.6	1071.3
47.5°	1255.1	1229.7	1125.1	1020.5	969.8
50°	1144.1	1122.0	1026.9	922.3	868.4
52.5°	1052.2	1017.4	925.5	820.9	776.5
55°	944.5	916.0	830.4	732.1	694.1
57.5°	846.2	817.7	738.5	646.6	614.9
60°	754.3	713.1	646.6	567.3	542.0
62.5°	652.9	621.2	564.2	497.6	529.3
65°	561.0	529.3	478.6	488.1	405.7
67.5°	459.6	443.7	399.3	355.0	342.3
70°	374.0	355.0	339.1	291.6	278.9
72.5°	297.9	278.9	256.7	231.4	221.9
75°	225.0	209.2	196.5	187.0	206.0
77.5°	155.3	149.0	139.5	129.9	126.8
80°	101.4	98.3	95.1	91.9	88.7
82.5°	60.2	60.2	60.2	60.2	60.2
85°	31.7	34.9	38.0	41.2	44.4
87.5°	19.0	19.0	22.2	25.4	28.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)