

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: P561817

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561817
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-82-88-EDD
Description: 1X4 FSR TROFFER WITH .187 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: 5269.0 lumens
Efficiency: N/A
Efficacy: 79.1 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

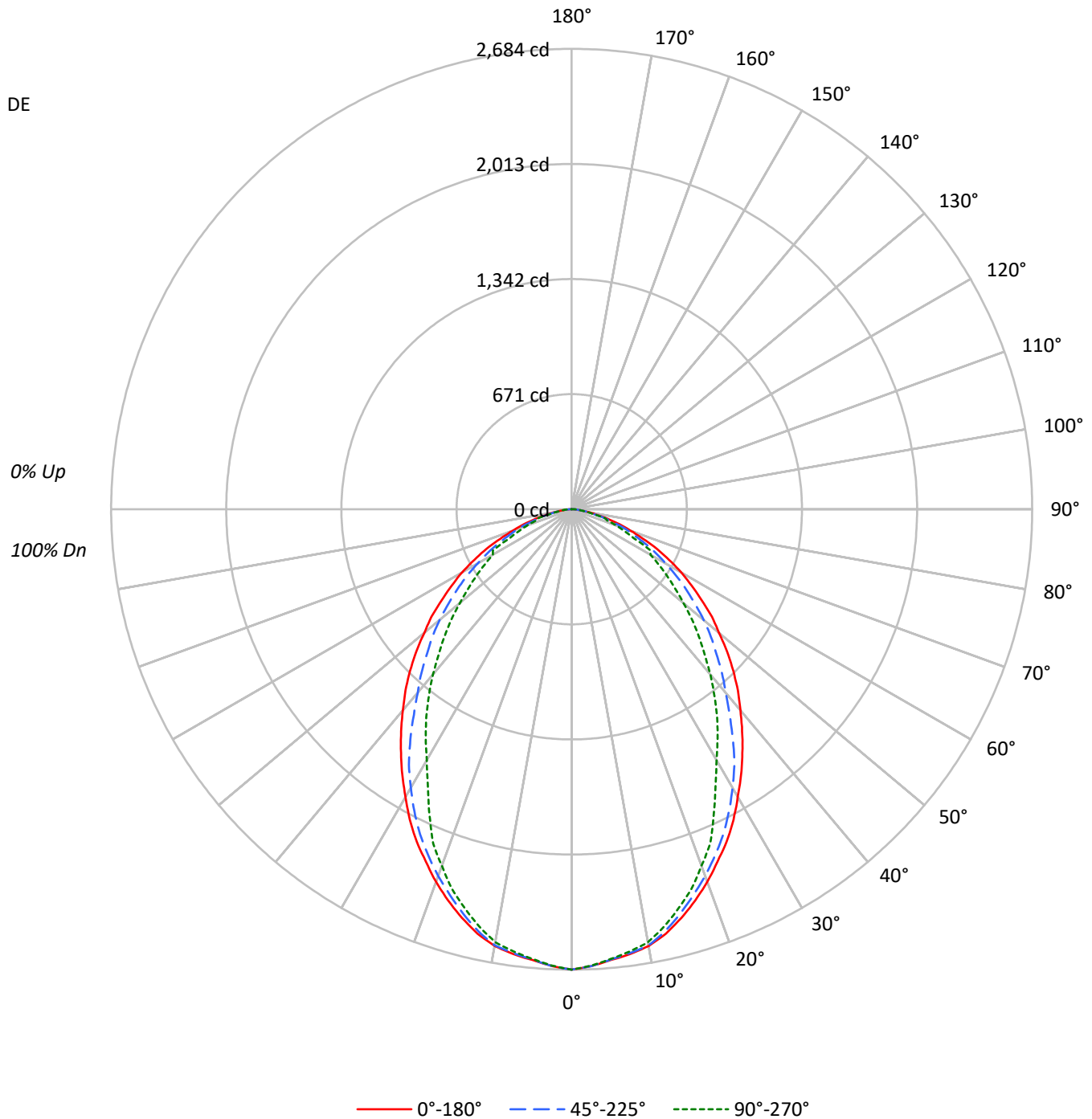
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7223	7223	7223
5°	7124	7116	7108
10°	7063	7054	7003
15°	6872	6803	6708
20°	6620	6513	6335
25°	6348	6209	5823
30°	6016	5823	5245
35°	5698	5382	4852
40°	5374	4905	4415
45°	5066	4534	3991
50°	4689	4209	3559
55°	4338	3814	3188
60°	3975	3407	2856
65°	3497	2983	2529
70°	2880	2612	2149
75°	2290	2000	2097
80°	1539	1443	1347
85°	957	1149	1340

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5066 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.8	4.7
10°-20°	685.7	13.0
20°-30°	949.3	18.0
30°-40°	1012.2	19.2
40°-50°	923.4	17.5
50°-60°	723.4	13.7
60°-70°	471.5	8.9
70°-80°	208.9	4.0
80°-90°	44.8	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°	1884.8	35.8
0°-40°	2897.0	55.0
0°-60°	4543.8	86.2
0°-90°	5269.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5269.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2684	2684	2684	2684	2684	
5°	2637	2634	2634	2631	2631	250
15°	2467	2467	2442	2417	2408	693
25°	2138	2125	2091	2017	1961	981
35°	1734	1722	1638	1514	1477	1084
45°	1331	1303	1192	1092	1049	1025
55°	925	897	813	717	680	829
65°	549	518	468	478	397	541
75°	220	205	192	183	202	236
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2684.0	2684.0	2684.0	2684.0	2684.0
2.5°	2665.3	2665.3	2665.3	2662.2	2662.2
5°	2637.4	2634.3	2634.3	2631.2	2631.2
7.5°	2615.7	2612.6	2609.5	2606.4	2600.2
10°	2584.7	2584.7	2581.6	2566.1	2562.9
12.5°	2535.0	2531.9	2519.5	2497.8	2491.6
15°	2466.8	2466.8	2441.9	2417.1	2407.8
17.5°	2392.3	2389.2	2358.2	2333.3	2320.9
20°	2311.6	2305.4	2274.4	2234.0	2212.3
22.5°	2221.6	2221.6	2184.4	2131.7	2109.9
25°	2137.9	2125.4	2091.3	2016.8	1961.0
27.5°	2041.7	2023.1	1985.8	1880.3	1815.2
30°	1936.2	1926.9	1874.1	1737.6	1687.9
32.5°	1836.9	1821.4	1765.5	1622.8	1582.4
35°	1734.5	1722.1	1638.3	1514.2	1477.0
37.5°	1632.1	1616.6	1511.1	1411.8	1365.3
40°	1529.7	1511.1	1396.3	1306.3	1256.7
42.5°	1433.5	1408.7	1297.0	1200.8	1144.9
45°	1331.1	1303.2	1191.5	1092.2	1048.8
47.5°	1228.7	1203.9	1101.5	999.1	949.5
50°	1120.1	1098.4	1005.3	902.9	850.2
52.5°	1030.1	996.0	906.0	803.6	760.2
55°	924.6	896.7	812.9	716.8	679.5
57.5°	828.5	800.5	723.0	633.0	602.0
60°	738.5	698.1	633.0	555.4	530.6
62.5°	639.2	608.2	552.3	487.1	518.2
65°	549.2	518.2	468.5	477.8	397.2
67.5°	449.9	434.4	391.0	347.5	335.1
70°	366.1	347.5	332.0	285.5	273.1
72.5°	291.7	273.1	251.3	226.5	217.2
75°	220.3	204.8	192.4	183.1	201.7
77.5°	152.0	145.8	136.5	127.2	124.1
80°	99.3	96.2	93.1	90.0	86.9
82.5°	59.0	59.0	59.0	59.0	59.0
85°	31.0	34.1	37.2	40.3	43.4
87.5°	18.6	18.6	21.7	24.8	27.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)