

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: P590920

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-82-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590920
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-35-UNV-82-87-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6806.0 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

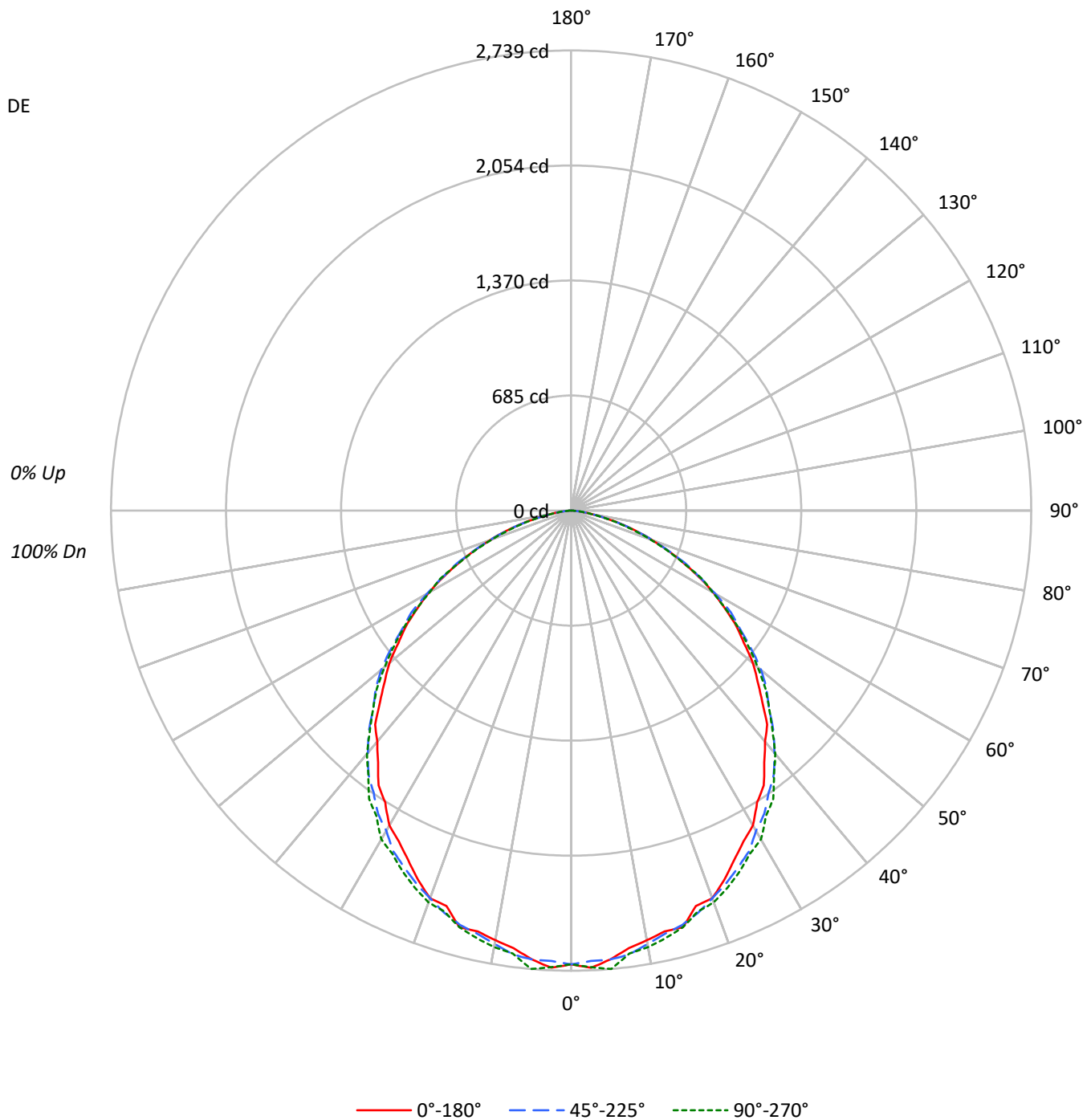
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86													86															
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73													73															
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62													62															
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53													53															
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46													46															
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41													41															
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36													36															
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32													32															
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29													29															
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26													26															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7267	7267	7267
5°	7243	7246	7398
10°	7096	7158	7208
15°	7152	7113	7153
20°	7031	7031	7106
25°	6815	6964	7041
30°	6721	6840	7022
35°	6563	6735	6886
40°	6308	6611	6641
45°	6117	6335	6344
50°	5916	6183	6065
55°	5637	5747	5706
60°	5271	5324	5228
65°	4700	4820	4667
70°	4032	4046	3934
75°	3194	3187	3063
80°	2140	2080	1999
85°	1164	1152	1078

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6498 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.0	3.7
10°-20°	719.9	10.6
20°-30°	1078.6	15.8
30°-40°	1278.3	18.8
40°-50°	1280.7	18.8
50°-60°	1087.1	16.0
60°-70°	732.9	10.8
70°-80°	322.1	4.7
80°-90°	52.3	0.8
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°	2052.5	30.2
0°-40°	3330.9	48.9
0°-60°	5698.7	83.7
0°-90°	6806.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6806.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2700	2700	2700	2700	2700	
5°	2681	2675	2682	2674	2739	253
15°	2567	2538	2553	2567	2568	715
25°	2295	2308	2346	2376	2371	1061
35°	1998	2004	2050	2098	2096	1240
45°	1607	1637	1665	1707	1667	1243
55°	1202	1194	1225	1216	1216	1069
65°	738	728	757	728	733	734
75°	307	301	306	285	295	329
85°	38	37	37	36	35	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2700.4	2700.4	2700.4	2700.4	2700.4
2.5°	2723.8	2703.2	2684.1	2706.4	2720.0
5°	2681.3	2675.0	2682.3	2674.3	2738.8
7.5°	2626.2	2650.2	2664.2	2655.5	2659.3
10°	2596.9	2588.5	2619.6	2641.2	2638.0
12.5°	2565.5	2578.1	2579.8	2603.2	2605.3
15°	2567.3	2537.6	2553.3	2566.6	2567.6
17.5°	2467.5	2499.6	2510.4	2540.8	2503.1
20°	2455.3	2432.0	2455.3	2486.4	2481.5
22.5°	2380.4	2354.2	2404.4	2432.0	2430.2
25°	2295.3	2307.8	2345.5	2376.2	2371.3
27.5°	2220.7	2235.3	2289.0	2331.2	2304.0
30°	2163.1	2155.8	2201.2	2238.8	2259.7
32.5°	2060.3	2086.8	2139.8	2177.1	2157.2
35°	1997.9	2003.8	2050.2	2097.6	2096.2
37.5°	1888.7	1916.3	1981.5	1994.7	1982.5
40°	1795.7	1823.2	1882.1	1896.4	1890.5
42.5°	1727.0	1731.8	1782.4	1798.8	1772.6
45°	1607.4	1637.4	1664.6	1707.4	1667.0
47.5°	1505.6	1519.5	1578.1	1589.6	1568.3
50°	1413.2	1418.0	1477.0	1462.7	1448.7
52.5°	1297.1	1317.6	1350.7	1348.0	1331.6
55°	1201.5	1193.5	1224.9	1216.5	1216.2
57.5°	1086.8	1100.8	1126.6	1113.3	1092.0
60°	979.4	979.8	989.2	974.2	971.4
62.5°	859.8	864.0	866.1	847.6	877.6
65°	738.1	728.4	757.0	728.0	732.9
67.5°	626.2	631.1	628.3	610.2	617.1
70°	512.5	518.8	514.3	493.7	500.0
72.5°	408.6	401.0	405.9	380.1	391.9
75°	307.2	300.9	306.5	284.9	294.6
77.5°	209.2	214.1	210.6	199.1	205.7
80°	138.1	134.2	134.2	127.6	129.0
82.5°	80.5	76.7	75.7	73.6	76.7
85°	37.7	36.6	37.3	36.3	34.9
87.5°	13.6	13.9	13.9	13.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)