

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: P561862

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561862
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-50-UNV-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5288.0 lumens
Efficiency: N/A
Efficacy: 79.4 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

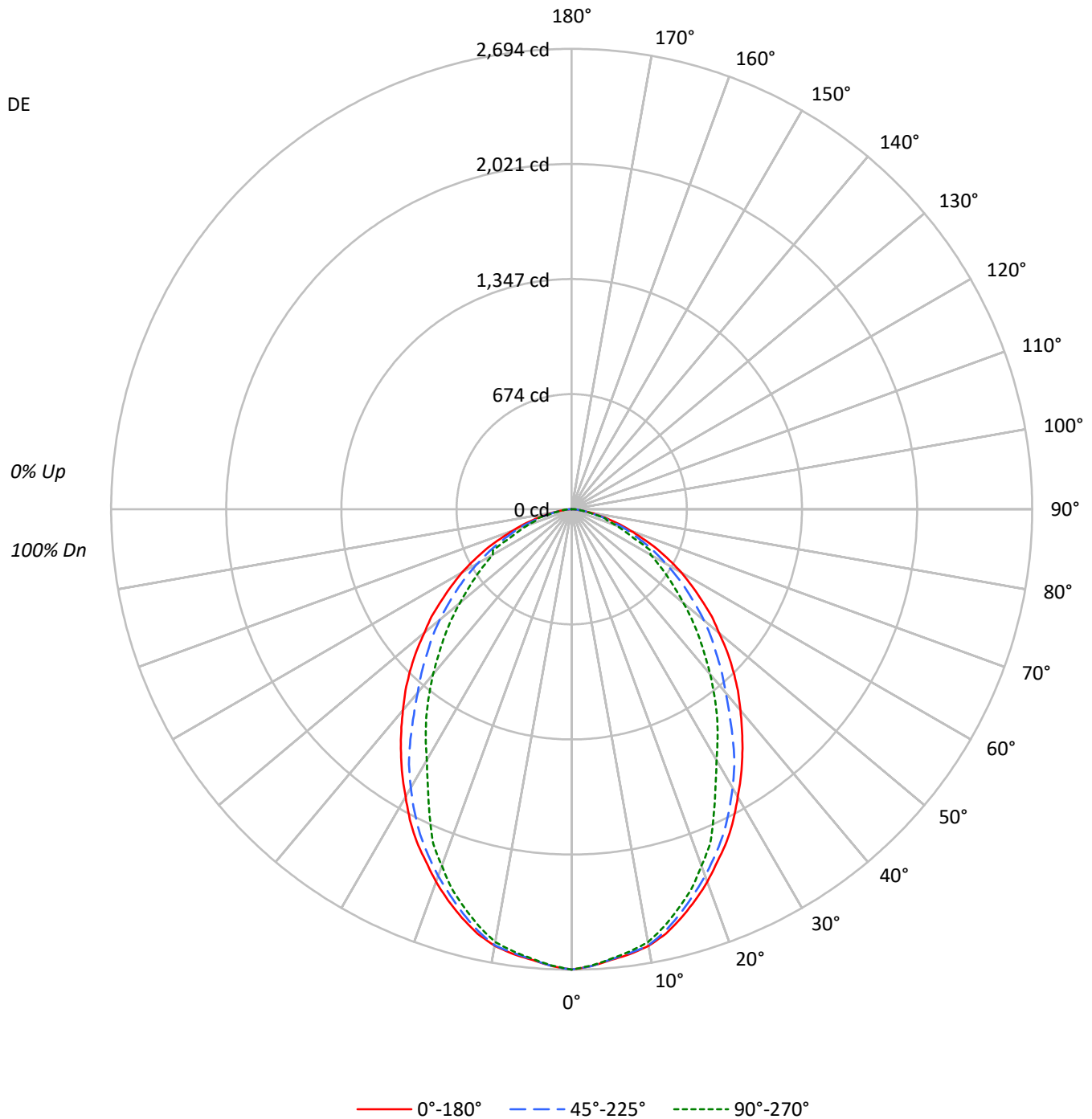
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7248	7248	7248
5°	7150	7142	7133
10°	7088	7080	7029
15°	6897	6827	6732
20°	6644	6537	6358
25°	6371	6232	5844
30°	6038	5844	5264
35°	5718	5401	4869
40°	5393	4923	4430
45°	5084	4551	4005
50°	4706	4224	3572
55°	4354	3828	3200
60°	3989	3419	2866
65°	3510	2994	2538
70°	2891	2622	2156
75°	2299	2008	2104
80°	1543	1447	1351
85°	960	1155	1346

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5084 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.7	4.7
10°-20°	688.1	13.0
20°-30°	952.7	18.0
30°-40°	1015.8	19.2
40°-50°	926.7	17.5
50°-60°	726.0	13.7
60°-70°	473.2	8.9
70°-80°	209.6	4.0
80°-90°	45.0	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°	1891.6	35.8
0°-40°	2907.4	55.0
0°-60°	4560.2	86.2
0°-90°	5288.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5288.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2694	2694	2694	2694	2694	
5°	2647	2644	2644	2641	2641	251
15°	2476	2476	2451	2426	2416	696
25°	2146	2133	2099	2024	1968	985
35°	1741	1728	1644	1520	1482	1088
45°	1336	1308	1196	1096	1052	1029
55°	928	900	816	719	682	832
65°	551	520	470	480	399	543
75°	221	206	193	184	202	237
85°	31	34	37	40	44	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2693.6	2693.6	2693.6	2693.6	2693.6
2.5°	2675.0	2675.0	2675.0	2671.8	2671.8
5°	2646.9	2643.8	2643.8	2640.7	2640.7
7.5°	2625.1	2622.0	2618.9	2615.8	2609.6
10°	2594.0	2594.0	2590.9	2575.3	2572.2
12.5°	2544.2	2541.0	2528.6	2506.8	2500.6
15°	2475.7	2475.7	2450.7	2425.8	2416.5
17.5°	2400.9	2397.8	2366.7	2341.8	2329.3
20°	2320.0	2313.7	2282.6	2242.1	2220.3
22.5°	2229.6	2229.6	2192.3	2139.3	2117.5
25°	2145.6	2133.1	2098.9	2024.1	1968.1
27.5°	2049.0	2030.3	1993.0	1887.1	1821.7
30°	1943.2	1933.8	1880.9	1743.9	1694.0
32.5°	1843.5	1827.9	1771.9	1628.6	1588.2
35°	1740.7	1728.3	1644.2	1519.6	1482.3
37.5°	1638.0	1622.4	1516.5	1416.9	1370.2
40°	1535.2	1516.5	1401.3	1311.0	1261.2
42.5°	1438.7	1413.8	1301.7	1205.1	1149.1
45°	1335.9	1307.9	1195.8	1096.1	1052.5
47.5°	1233.2	1208.2	1105.5	1002.7	952.9
50°	1124.2	1102.4	1008.9	906.2	853.2
52.5°	1033.9	999.6	909.3	806.5	762.9
55°	928.0	900.0	815.9	719.3	682.0
57.5°	831.4	803.4	725.6	635.3	604.1
60°	741.1	700.7	635.3	557.4	532.5
62.5°	641.5	610.4	554.3	488.9	520.0
65°	551.2	520.0	470.2	479.6	398.6
67.5°	451.5	436.0	392.4	348.8	336.3
70°	367.5	348.8	333.2	286.5	274.0
72.5°	292.7	274.0	252.2	227.3	218.0
75°	221.1	205.5	193.1	183.7	202.4
77.5°	152.6	146.4	137.0	127.7	124.6
80°	99.6	96.5	93.4	90.3	87.2
82.5°	59.2	59.2	59.2	59.2	59.2
85°	31.1	34.3	37.4	40.5	43.6
87.5°	18.7	18.7	21.8	24.9	28.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)