

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: P590483

Luminaire Tested: FSR-24-2-LD4-3HI-40-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590483
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-LD4-3HI-40-UNV-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7202.0 lumens
Efficiency: N/A
Efficacy: 111.1 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

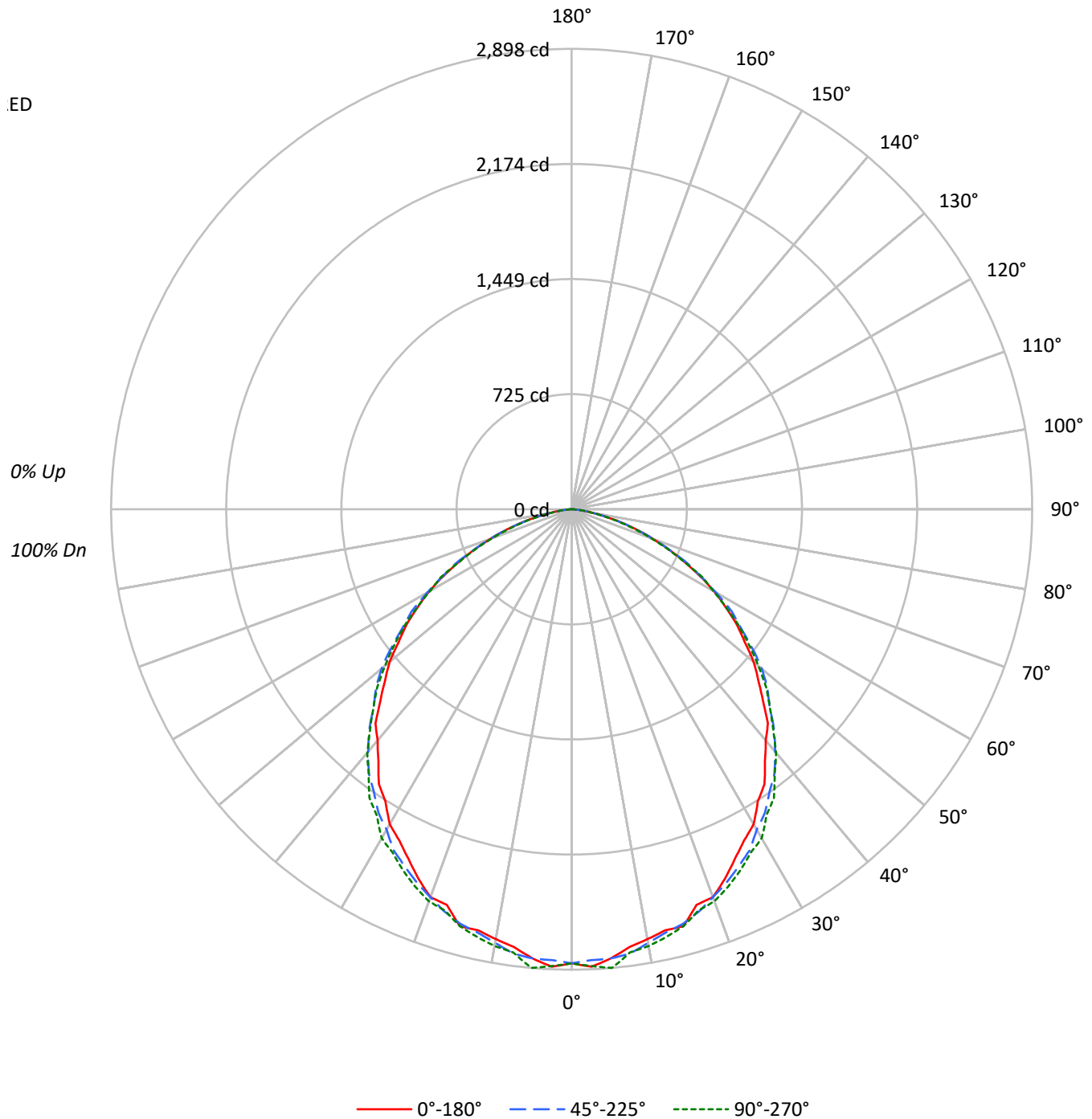
Input Watts (W): 64.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7690	7690	7690
5°	7664	7667	7829
10°	7509	7574	7628
15°	7568	7527	7569
20°	7440	7440	7520
25°	7212	7369	7451
30°	7113	7237	7430
35°	6945	7127	7287
40°	6675	6996	7027
45°	6473	6703	6713
50°	6260	6543	6418
55°	5965	6081	6038
60°	5578	5633	5532
65°	4974	5100	4938
70°	4268	4282	4163
75°	3380	3372	3242
80°	2264	2201	2115
85°	1229	1220	1139

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6876 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.8	3.7
10°-20°	761.8	10.6
20°-30°	1141.3	15.8
30°-40°	1352.7	18.8
40°-50°	1355.2	18.8
50°-60°	1150.4	16.0
60°-70°	775.6	10.8
70°-80°	340.8	4.7
80°-90°	55.4	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°	2171.9	30.2
0°-40°	3524.7	48.9
0°-60°	6030.3	83.7
0°-90°	7202.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7202.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2858	2858	2858	2858	2858	
5°	2837	2831	2838	2830	2898	267
15°	2717	2685	2702	2716	2717	757
25°	2429	2442	2482	2514	2509	1123
35°	2114	2120	2170	2220	2218	1313
45°	1701	1733	1761	1807	1764	1316
55°	1271	1263	1296	1287	1287	1131
65°	781	771	801	770	776	777
75°	325	318	324	301	312	348
85°	40	39	40	38	37	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2857.6	2857.6	2857.6	2857.6	2857.6
2.5°	2882.3	2860.5	2840.2	2863.8	2878.2
5°	2837.3	2830.6	2838.4	2829.9	2898.2
7.5°	2779.0	2804.4	2819.2	2810.0	2814.0
10°	2748.0	2739.1	2772.0	2794.8	2791.5
12.5°	2714.8	2728.1	2729.9	2754.6	2756.8
15°	2716.6	2685.3	2701.9	2715.9	2717.0
17.5°	2611.1	2645.1	2656.5	2688.6	2648.7
20°	2598.2	2573.5	2598.2	2631.0	2625.9
22.5°	2518.9	2491.2	2544.3	2573.5	2571.6
25°	2428.8	2442.1	2482.0	2514.4	2509.3
27.5°	2349.9	2365.4	2422.2	2466.8	2438.1
30°	2289.0	2281.3	2329.2	2369.1	2391.2
32.5°	2180.2	2208.2	2264.3	2303.8	2282.7
35°	2114.1	2120.4	2169.5	2219.6	2218.2
37.5°	1998.6	2027.8	2096.8	2110.8	2097.9
40°	1900.1	1929.3	1991.6	2006.8	2000.5
42.5°	1827.4	1832.6	1886.1	1903.4	1875.8
45°	1700.9	1732.6	1761.4	1806.8	1764.0
47.5°	1593.2	1607.9	1669.9	1682.1	1659.6
50°	1495.4	1500.5	1562.9	1547.8	1533.0
52.5°	1372.5	1394.3	1429.3	1426.4	1409.0
55°	1271.4	1262.9	1296.1	1287.3	1286.9
57.5°	1150.0	1164.8	1192.1	1178.1	1155.6
60°	1036.4	1036.8	1046.7	1030.9	1027.9
62.5°	909.8	914.3	916.5	896.9	928.7
65°	781.1	770.8	801.0	770.4	775.5
67.5°	662.6	667.8	664.9	645.7	653.1
70°	542.4	549.0	544.2	522.4	529.1
72.5°	432.4	424.3	429.5	402.2	414.7
75°	325.1	318.4	324.3	301.4	311.8
77.5°	221.4	226.5	222.9	210.7	217.7
80°	146.1	142.0	142.0	135.0	136.5
82.5°	85.2	81.2	80.1	77.8	81.2
85°	39.8	38.7	39.5	38.4	36.9
87.5°	14.4	14.8	14.8	14.0	13.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)