

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: P590228

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590228
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-LD4-2HI-50-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4708.0 lumens
Efficiency: N/A
Efficacy: 109.0 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

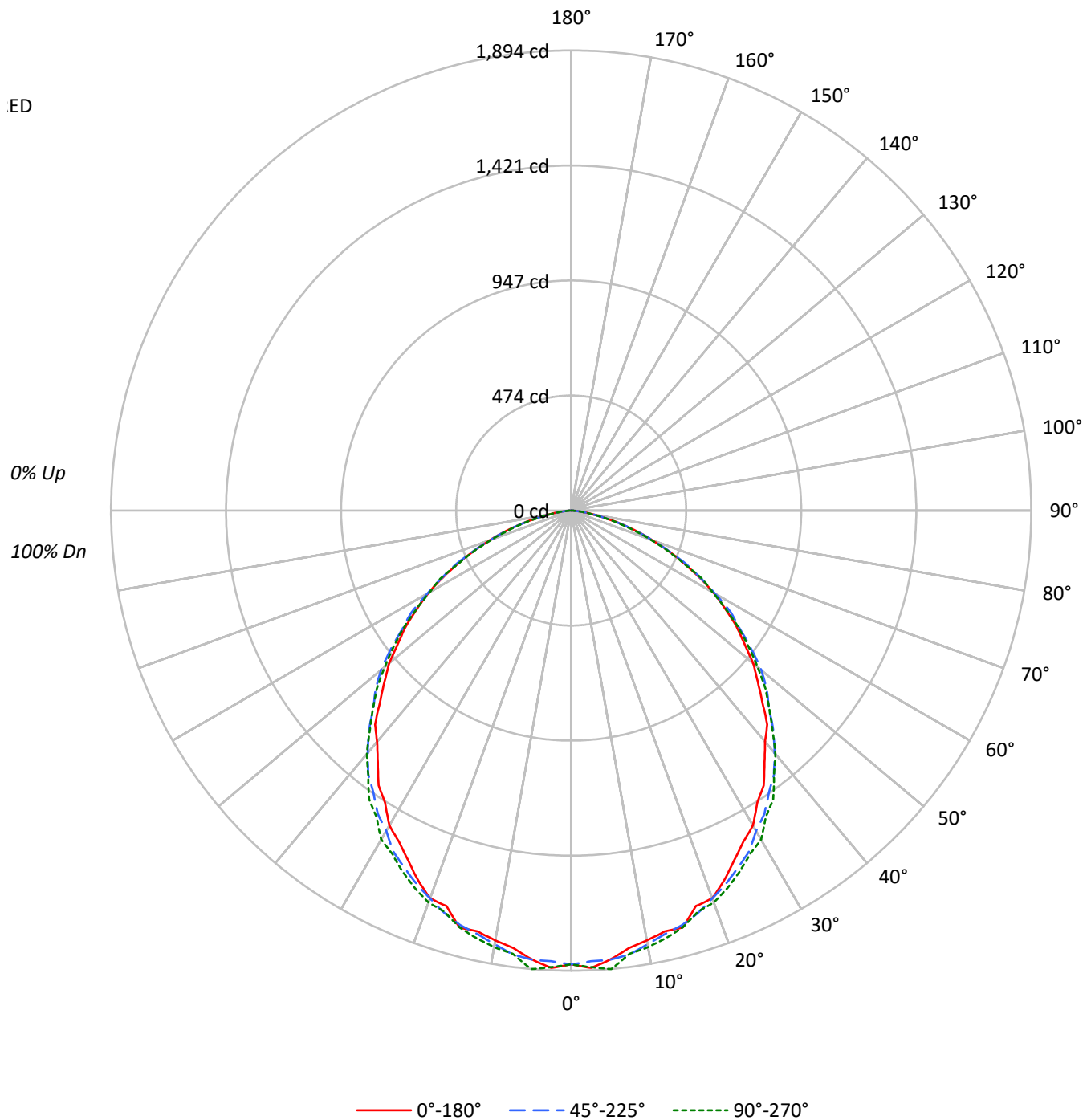
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5027	5027	5027
5°	5010	5012	5118
10°	4909	4952	4986
15°	4947	4920	4948
20°	4864	4864	4916
25°	4714	4817	4870
30°	4649	4731	4857
35°	4540	4659	4763
40°	4363	4573	4594
45°	4231	4382	4388
50°	4092	4277	4195
55°	3899	3975	3947
60°	3646	3683	3617
65°	3251	3334	3228
70°	2789	2799	2722
75°	2209	2204	2119
80°	1480	1440	1382
85°	803	797	744

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4495 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.7	3.7
10°-20°	498.0	10.6
20°-30°	746.1	15.8
30°-40°	884.3	18.8
40°-50°	885.9	18.8
50°-60°	752.0	16.0
60°-70°	507.0	10.8
70°-80°	222.8	4.7
80°-90°	36.2	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°	1419.8	30.2
0°-40°	2304.1	48.9
0°-60°	3942.0	83.7
0°-90°	4708.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4708.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1868	1868	1868	1868	1868	
5°	1855	1850	1856	1850	1894	175
15°	1776	1755	1766	1775	1776	495
25°	1588	1596	1622	1644	1640	734
35°	1382	1386	1418	1451	1450	858
45°	1112	1133	1151	1181	1153	860
55°	831	826	847	842	841	739
65°	511	504	524	504	507	508
75°	212	208	212	197	204	228
85°	26	25	26	25	24	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1868.0	1868.0	1868.0	1868.0	1868.0
2.5°	1884.2	1869.9	1856.7	1872.1	1881.5
5°	1854.8	1850.4	1855.5	1849.9	1894.5
7.5°	1816.6	1833.3	1842.9	1836.9	1839.6
10°	1796.4	1790.6	1812.1	1827.0	1824.8
12.5°	1774.7	1783.4	1784.6	1800.7	1802.2
15°	1775.9	1755.4	1766.2	1775.4	1776.1
17.5°	1706.9	1729.1	1736.6	1757.6	1731.5
20°	1698.5	1682.3	1698.5	1719.9	1716.5
22.5°	1646.6	1628.5	1663.2	1682.3	1681.1
25°	1587.8	1596.4	1622.5	1643.7	1640.3
27.5°	1536.1	1546.3	1583.4	1612.6	1593.8
30°	1496.3	1491.3	1522.6	1548.7	1563.2
32.5°	1425.2	1443.5	1480.2	1506.0	1492.2
35°	1382.0	1386.1	1418.2	1451.0	1450.0
37.5°	1306.5	1325.6	1370.7	1379.8	1371.4
40°	1242.1	1261.2	1301.9	1311.8	1307.7
42.5°	1194.6	1198.0	1233.0	1244.3	1226.2
45°	1111.9	1132.6	1151.4	1181.1	1153.1
47.5°	1041.5	1051.1	1091.6	1099.6	1084.9
50°	977.5	980.9	1021.7	1011.8	1002.1
52.5°	897.2	911.5	934.4	932.4	921.1
55°	831.1	825.6	847.3	841.5	841.3
57.5°	751.8	761.4	779.3	770.1	755.4
60°	677.5	677.7	684.3	673.9	672.0
62.5°	594.8	597.7	599.1	586.3	607.1
65°	510.6	503.8	523.6	503.6	507.0
67.5°	433.2	436.6	434.6	422.1	426.9
70°	354.5	358.9	355.8	341.5	345.9
72.5°	282.7	277.4	280.7	262.9	271.1
75°	212.5	208.1	212.0	197.1	203.8
77.5°	144.7	148.1	145.7	137.7	142.3
80°	95.5	92.9	92.9	88.3	89.2
82.5°	55.7	53.1	52.3	50.9	53.1
85°	26.0	25.3	25.8	25.1	24.1
87.5°	9.4	9.6	9.6	9.2	8.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)