

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: P590225

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-93-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590225
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-93-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4160.0 lumens
Efficiency: N/A
Efficacy: 96.3 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

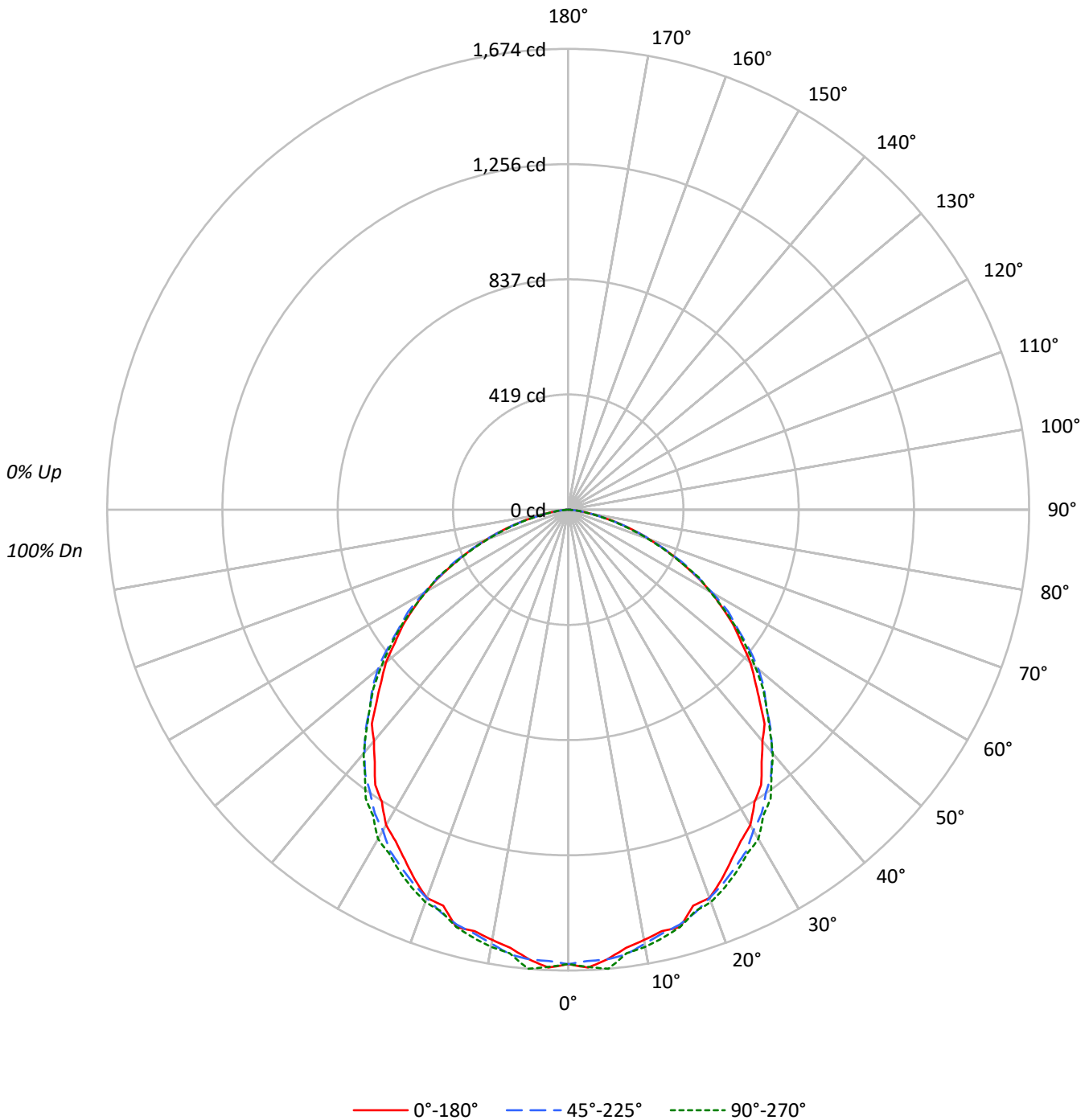
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4442	4442	4442
5°	4427	4429	4522
10°	4337	4375	4406
15°	4372	4348	4372
20°	4298	4298	4343
25°	4165	4257	4304
30°	4108	4181	4292
35°	4012	4117	4209
40°	3855	4041	4059
45°	3739	3872	3878
50°	3616	3779	3707
55°	3445	3513	3487
60°	3222	3254	3195
65°	2873	2946	2853
70°	2465	2473	2404
75°	1953	1947	1873
80°	1308	1271	1223
85°	710	704	658

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3972 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.3	3.7
10°-20°	440.0	10.6
20°-30°	659.3	15.8
30°-40°	781.4	18.8
40°-50°	782.8	18.8
50°-60°	664.5	16.0
60°-70°	448.0	10.8
70°-80°	196.8	4.7
80°-90°	32.0	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°	1254.6	30.2
0°-40°	2035.9	48.9
0°-60°	3483.2	83.7
0°-90°	4160.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4160.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1651	1651	1651	1651	1651	
5°	1639	1635	1640	1635	1674	155
15°	1569	1551	1561	1569	1569	437
25°	1403	1411	1434	1452	1449	649
35°	1221	1225	1253	1282	1281	758
45°	982	1001	1017	1044	1019	760
55°	734	730	749	744	743	653
65°	451	445	463	445	448	449
75°	188	184	187	174	180	201
85°	23	22	23	22	21	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1650.6	1650.6	1650.6	1650.6	1650.6
2.5°	1664.9	1652.3	1640.6	1654.2	1662.5
5°	1638.9	1635.0	1639.5	1634.6	1674.0
7.5°	1605.2	1619.9	1628.4	1623.1	1625.4
10°	1587.3	1582.2	1601.1	1614.4	1612.4
12.5°	1568.1	1575.8	1576.8	1591.1	1592.4
15°	1569.2	1551.1	1560.6	1568.7	1569.4
17.5°	1508.2	1527.8	1534.4	1553.0	1530.0
20°	1500.8	1486.5	1500.8	1519.7	1516.7
22.5°	1454.9	1439.0	1469.6	1486.5	1485.4
25°	1402.9	1410.6	1433.6	1452.4	1449.4
27.5°	1357.3	1366.3	1399.1	1424.9	1408.3
30°	1322.2	1317.7	1345.4	1368.4	1381.2
32.5°	1259.3	1275.5	1307.9	1330.7	1318.5
35°	1221.2	1224.8	1253.1	1282.1	1281.3
37.5°	1154.4	1171.3	1211.1	1219.2	1211.8
40°	1097.5	1114.4	1150.4	1159.1	1155.5
42.5°	1055.6	1058.5	1089.4	1099.5	1083.5
45°	982.5	1000.8	1017.4	1043.6	1018.9
47.5°	920.2	928.8	964.6	971.6	958.6
50°	863.8	866.7	902.8	894.0	885.5
52.5°	792.8	805.4	825.6	823.9	813.9
55°	734.4	729.5	748.7	743.6	743.3
57.5°	664.3	672.8	688.6	680.5	667.5
60°	598.6	598.9	604.6	595.4	593.7
62.5°	525.5	528.1	529.4	518.1	536.4
65°	451.2	445.2	462.7	445.0	448.0
67.5°	382.8	385.7	384.0	373.0	377.2
70°	313.3	317.1	314.3	301.8	305.6
72.5°	249.8	245.1	248.1	232.3	239.5
75°	187.8	183.9	187.3	174.1	180.1
77.5°	127.9	130.9	128.7	121.7	125.7
80°	84.4	82.0	82.0	78.0	78.9
82.5°	49.2	46.9	46.2	45.0	46.9
85°	23.0	22.4	22.8	22.2	21.3
87.5°	8.3	8.5	8.5	8.1	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)