

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: P590160

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590160
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-35-UNV-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4497.0 lumens
Efficiency: N/A
Efficacy: 104.1 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

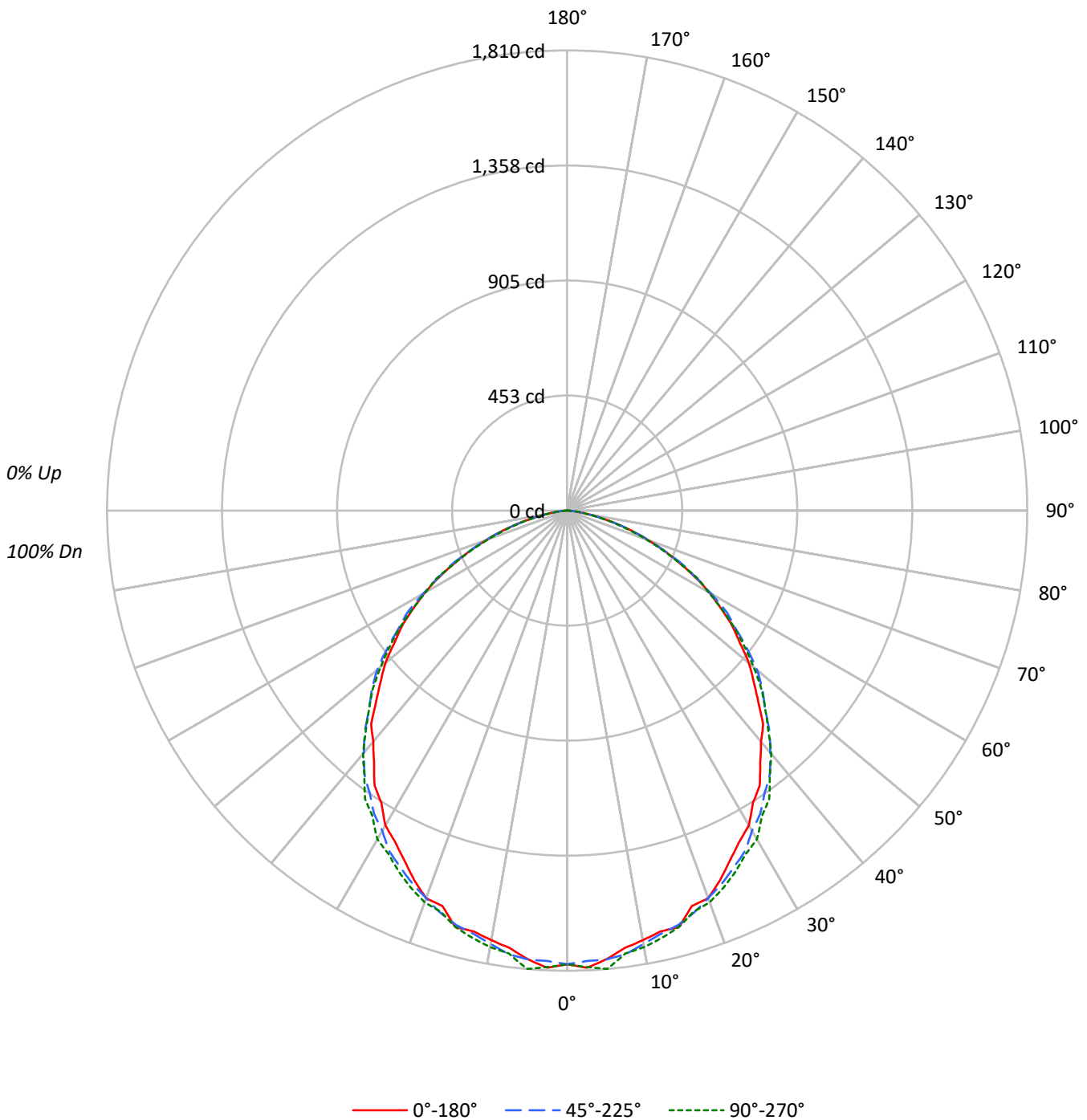
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4802	4802	4802
5°	4786	4787	4888
10°	4689	4729	4763
15°	4726	4700	4726
20°	4646	4646	4695
25°	4503	4602	4652
30°	4441	4519	4639
35°	4337	4450	4550
40°	4168	4369	4388
45°	4042	4185	4192
50°	3909	4086	4007
55°	3725	3797	3770
60°	3483	3518	3454
65°	3105	3185	3084
70°	2665	2674	2600
75°	2111	2105	2024
80°	1413	1375	1320
85°	769	763	710

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4293 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.8	3.7
10°-20°	475.7	10.6
20°-30°	712.7	15.8
30°-40°	844.7	18.8
40°-50°	846.2	18.8
50°-60°	718.3	16.0
60°-70°	484.3	10.8
70°-80°	212.8	4.7
80°-90°	34.6	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°	1356.2	30.2
0°-40°	2200.8	48.9
0°-60°	3765.4	83.7
0°-90°	4497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4497.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1784	1784	1784	1784	1784	
5°	1772	1768	1772	1767	1810	167
15°	1696	1677	1687	1696	1696	473
25°	1517	1525	1550	1570	1567	701
35°	1320	1324	1355	1386	1385	820
45°	1062	1082	1100	1128	1101	822
55°	794	789	809	804	804	706
65°	488	481	500	481	484	485
75°	203	199	202	188	195	218
85°	25	24	25	24	23	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1784.3	1784.3	1784.3	1784.3	1784.3
2.5°	1799.7	1786.1	1773.5	1788.2	1797.2
5°	1771.6	1767.5	1772.3	1767.0	1809.6
7.5°	1735.2	1751.1	1760.3	1754.6	1757.1
10°	1715.9	1710.3	1730.8	1745.1	1743.1
12.5°	1695.1	1703.4	1704.6	1720.0	1721.4
15°	1696.3	1676.7	1687.1	1695.8	1696.5
17.5°	1630.4	1651.6	1658.7	1678.8	1653.9
20°	1622.3	1606.9	1622.3	1642.8	1639.6
22.5°	1572.8	1555.5	1588.7	1606.9	1605.8
25°	1516.6	1524.9	1549.8	1570.0	1566.8
27.5°	1467.3	1477.0	1512.4	1540.3	1522.4
30°	1429.3	1424.4	1454.4	1479.3	1493.1
32.5°	1361.3	1378.8	1413.8	1438.5	1425.4
35°	1320.1	1324.0	1354.6	1386.0	1385.0
37.5°	1248.0	1266.2	1309.3	1318.0	1309.9
40°	1186.5	1204.7	1243.6	1253.0	1249.1
42.5°	1141.1	1144.3	1177.7	1188.5	1171.3
45°	1062.1	1081.9	1099.8	1128.2	1101.4
47.5°	994.8	1004.0	1042.7	1050.3	1036.3
50°	933.7	937.0	975.9	966.4	957.2
52.5°	857.0	870.6	892.5	890.7	879.8
55°	793.9	788.6	809.3	803.8	803.6
57.5°	718.1	727.3	744.4	735.6	721.6
60°	647.1	647.4	653.6	643.7	641.8
62.5°	568.1	570.9	572.3	560.1	579.9
65°	487.7	481.3	500.2	481.0	484.3
67.5°	413.8	417.0	415.1	403.2	407.8
70°	338.7	342.8	339.8	326.2	330.4
72.5°	270.0	264.9	268.2	251.1	258.9
75°	203.0	198.8	202.5	188.2	194.7
77.5°	138.2	141.5	139.1	131.5	135.9
80°	91.2	88.7	88.7	84.3	85.2
82.5°	53.2	50.7	50.0	48.6	50.7
85°	24.9	24.2	24.7	24.0	23.0
87.5°	9.0	9.2	9.2	8.8	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)