

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: P590575

Luminaire Tested: FSR-24-2-LD4-3LO-40-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590575
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-LD4-3LO-40-UNV-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4287.0 lumens
Efficiency: N/A
Efficacy: 122.1 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

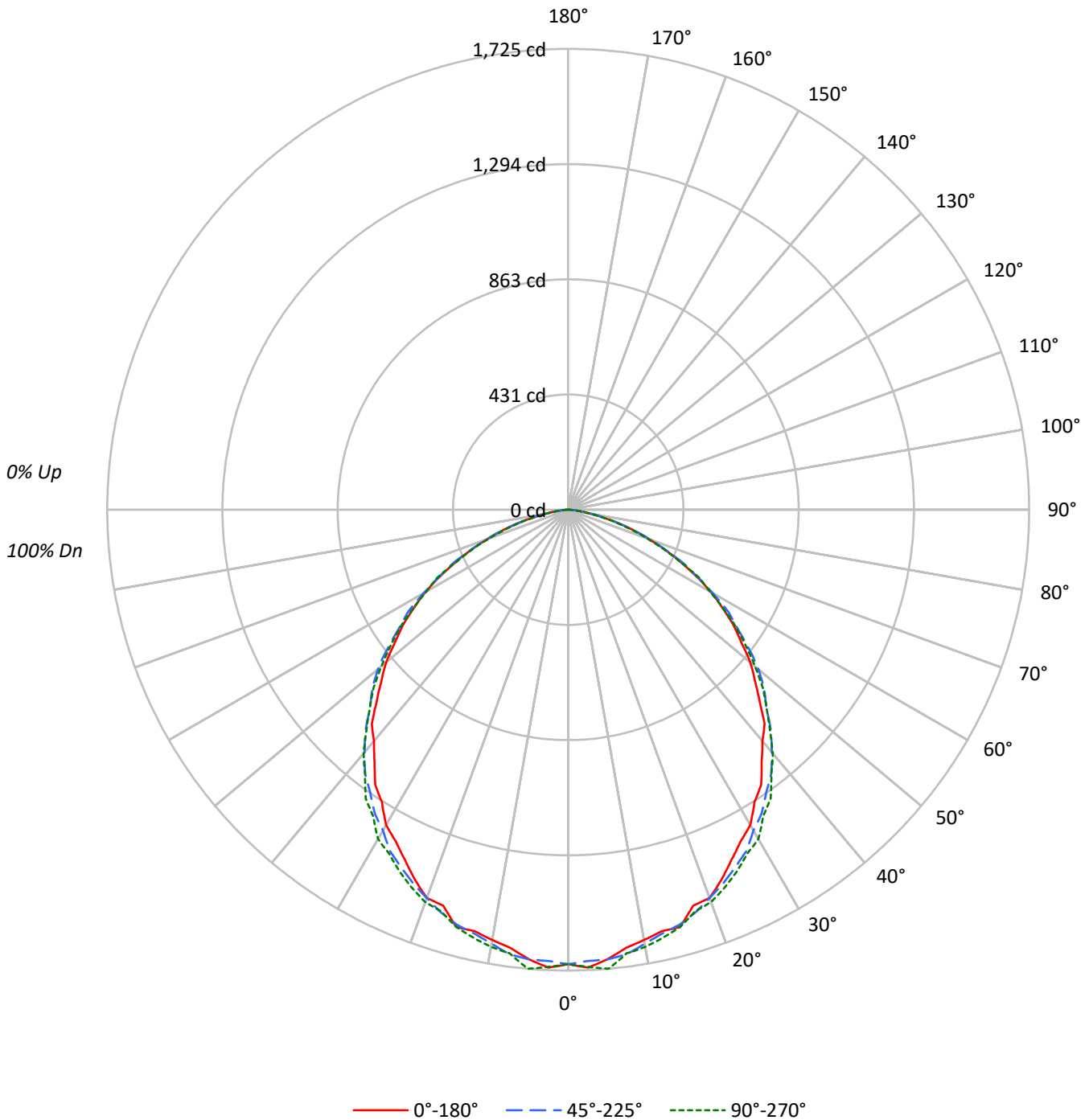
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	4577	4577	4577
5°	4562	4564	4660
10°	4470	4509	4541
15°	4505	4481	4506
20°	4429	4429	4476
25°	4293	4387	4435
30°	4234	4308	4423
35°	4134	4242	4338
40°	3973	4164	4183
45°	3853	3990	3996
50°	3726	3895	3820
55°	3551	3620	3594
60°	3320	3353	3293
65°	2960	3036	2939
70°	2540	2548	2478
75°	2012	2007	1930
80°	1348	1311	1260
85°	732	726	679

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4093 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.0	3.7
10°-20°	453.5	10.6
20°-30°	679.4	15.8
30°-40°	805.2	18.8
40°-50°	806.7	18.8
50°-60°	684.8	16.0
60°-70°	461.7	10.8
70°-80°	202.9	4.7
80°-90°	33.0	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°	1292.9	30.2
0°-40°	2098.1	48.9
0°-60°	3589.5	83.7
0°-90°	4287.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4287.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1701	1701	1701	1701	1701	
5°	1689	1685	1690	1684	1725	159
15°	1617	1598	1608	1617	1617	451
25°	1446	1454	1477	1497	1494	668
35°	1258	1262	1291	1321	1320	781
45°	1012	1031	1048	1076	1050	783
55°	757	752	772	766	766	673
65°	465	459	477	459	462	462
75°	194	190	193	179	186	207
85°	24	23	24	23	22	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1701.0	1701.0	1701.0	1701.0	1701.0
2.5°	1715.7	1702.7	1690.7	1704.7	1713.3
5°	1688.9	1684.9	1689.6	1684.5	1725.1
7.5°	1654.2	1669.3	1678.1	1672.6	1675.1
10°	1635.7	1630.5	1650.0	1663.6	1661.7
12.5°	1616.0	1623.9	1625.0	1639.7	1641.0
15°	1617.1	1598.4	1608.3	1616.6	1617.3
17.5°	1554.3	1574.5	1581.3	1600.4	1576.7
20°	1546.6	1531.9	1546.6	1566.1	1563.1
22.5°	1499.4	1482.9	1514.5	1531.9	1530.8
25°	1445.8	1453.7	1477.4	1496.7	1493.7
27.5°	1398.8	1408.0	1441.8	1468.4	1451.3
30°	1362.5	1357.9	1386.5	1410.2	1423.4
32.5°	1297.7	1314.4	1347.8	1371.3	1358.8
35°	1258.4	1262.2	1291.4	1321.2	1320.4
37.5°	1189.7	1207.0	1248.1	1256.5	1248.8
40°	1131.1	1148.4	1185.5	1194.5	1190.8
42.5°	1087.8	1090.9	1122.7	1133.0	1116.6
45°	1012.5	1031.3	1048.5	1075.5	1050.0
47.5°	948.3	957.1	994.0	1001.3	987.9
50°	890.1	893.2	930.3	921.3	912.5
52.5°	817.0	830.0	850.8	849.1	838.7
55°	756.8	751.8	771.5	766.3	766.0
57.5°	684.6	693.3	709.6	701.3	687.9
60°	616.9	617.1	623.1	613.6	611.9
62.5°	541.6	544.2	545.5	533.9	552.8
65°	464.9	458.8	476.8	458.6	461.6
67.5°	394.4	397.5	395.8	384.3	388.7
70°	322.8	326.8	323.9	311.0	314.9
72.5°	257.4	252.6	255.6	239.4	246.9
75°	193.5	189.5	193.0	179.4	185.6
77.5°	131.8	134.8	132.7	125.4	129.6
80°	87.0	84.6	84.6	80.4	81.3
82.5°	50.7	48.3	47.7	46.3	48.3
85°	23.7	23.1	23.5	22.8	22.0
87.5°	8.6	8.8	8.8	8.3	7.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)