

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: P590562

Luminaire Tested: FSR-24-2-LD4-3LO-40-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590562
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-81-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4204.0 lumens
Efficiency: N/A
Efficacy: 119.8 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

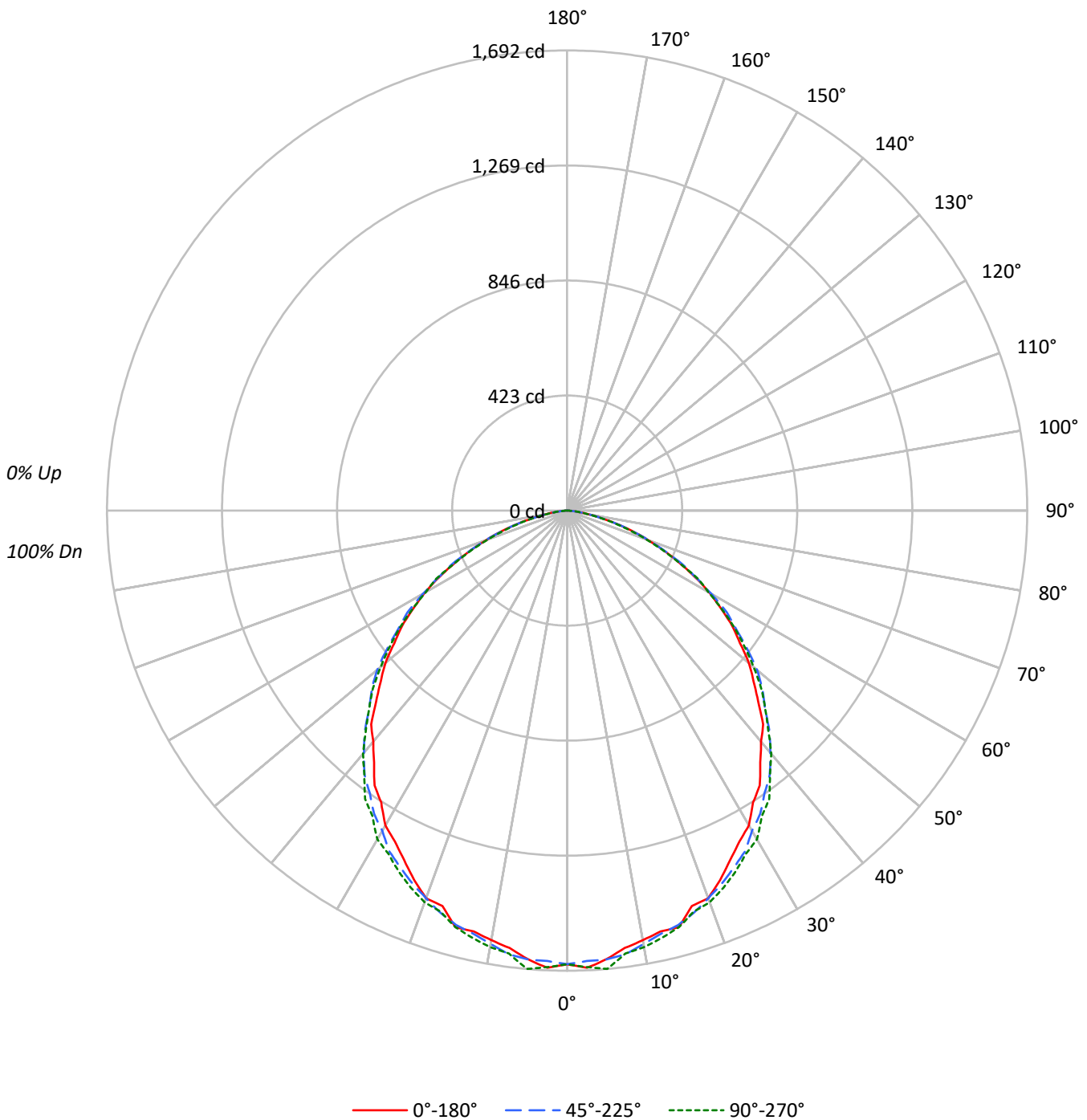
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	4489	4489	4489
5°	4474	4475	4570
10°	4383	4421	4453
15°	4418	4394	4418
20°	4343	4343	4389
25°	4210	4302	4349
30°	4152	4225	4337
35°	4054	4160	4254
40°	3896	4084	4102
45°	3779	3913	3919
50°	3654	3819	3746
55°	3482	3550	3524
60°	3256	3288	3229
65°	2903	2977	2883
70°	2491	2500	2430
75°	1972	1968	1892
80°	1322	1285	1235
85°	719	710	664

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4014 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.9	3.7
10°-20°	444.7	10.6
20°-30°	666.2	15.8
30°-40°	789.6	18.8
40°-50°	791.1	18.8
50°-60°	671.5	16.0
60°-70°	452.7	10.8
70°-80°	198.9	4.7
80°-90°	32.3	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°	1267.8	30.2
0°-40°	2057.4	48.9
0°-60°	3520.0	83.7
0°-90°	4204.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4204.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1668	1668	1668	1668	1668	
5°	1656	1652	1657	1652	1692	156
15°	1586	1568	1577	1585	1586	442
25°	1418	1426	1449	1468	1465	655
35°	1234	1238	1266	1296	1295	766
45°	993	1011	1028	1055	1030	768
55°	742	737	757	751	751	660
65°	456	450	468	450	453	453
75°	190	186	189	176	182	203
85°	23	23	23	22	22	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1668.0	1668.0	1668.0	1668.0	1668.0
2.5°	1682.5	1669.8	1657.9	1671.7	1680.1
5°	1656.2	1652.3	1656.8	1651.9	1691.7
7.5°	1622.2	1637.0	1645.6	1640.3	1642.6
10°	1604.1	1598.9	1618.1	1631.4	1629.5
12.5°	1584.7	1592.4	1593.5	1608.0	1609.2
15°	1585.8	1567.5	1577.2	1585.3	1586.0
17.5°	1524.2	1544.0	1550.7	1569.4	1546.1
20°	1516.6	1502.2	1516.6	1535.8	1532.8
22.5°	1470.3	1454.2	1485.2	1502.2	1501.1
25°	1417.8	1425.5	1448.8	1467.7	1464.7
27.5°	1371.7	1380.7	1413.9	1440.0	1423.2
30°	1336.2	1331.6	1359.6	1382.9	1395.8
32.5°	1272.6	1289.0	1321.7	1344.8	1332.5
35°	1234.1	1237.7	1266.4	1295.7	1294.8
37.5°	1166.7	1183.7	1223.9	1232.1	1224.6
40°	1109.2	1126.2	1162.6	1171.4	1167.7
42.5°	1066.7	1069.7	1101.0	1111.1	1094.9
45°	992.9	1011.4	1028.2	1054.7	1029.7
47.5°	930.0	938.6	974.8	981.9	968.7
50°	872.9	875.9	912.3	903.5	894.9
52.5°	801.2	813.9	834.3	832.6	822.5
55°	742.2	737.2	756.6	751.4	751.2
57.5°	671.3	679.9	695.9	687.7	674.5
60°	605.0	605.2	611.0	601.7	600.0
62.5°	531.1	533.7	535.0	523.6	542.1
65°	455.9	449.9	467.6	449.7	452.7
67.5°	386.8	389.8	388.1	376.9	381.2
70°	316.6	320.5	317.7	305.0	308.8
72.5°	252.4	247.7	250.7	234.8	242.1
75°	189.7	185.9	189.3	176.0	182.0
77.5°	129.2	132.2	130.1	123.0	127.1
80°	85.3	82.9	82.9	78.8	79.7
82.5°	49.8	47.4	46.7	45.4	47.4
85°	23.3	22.6	23.0	22.4	21.5
87.5°	8.4	8.6	8.6	8.2	7.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)