

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: P590146

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590146
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-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4558.0 lumens
Efficiency: N/A
Efficacy: 105.5 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

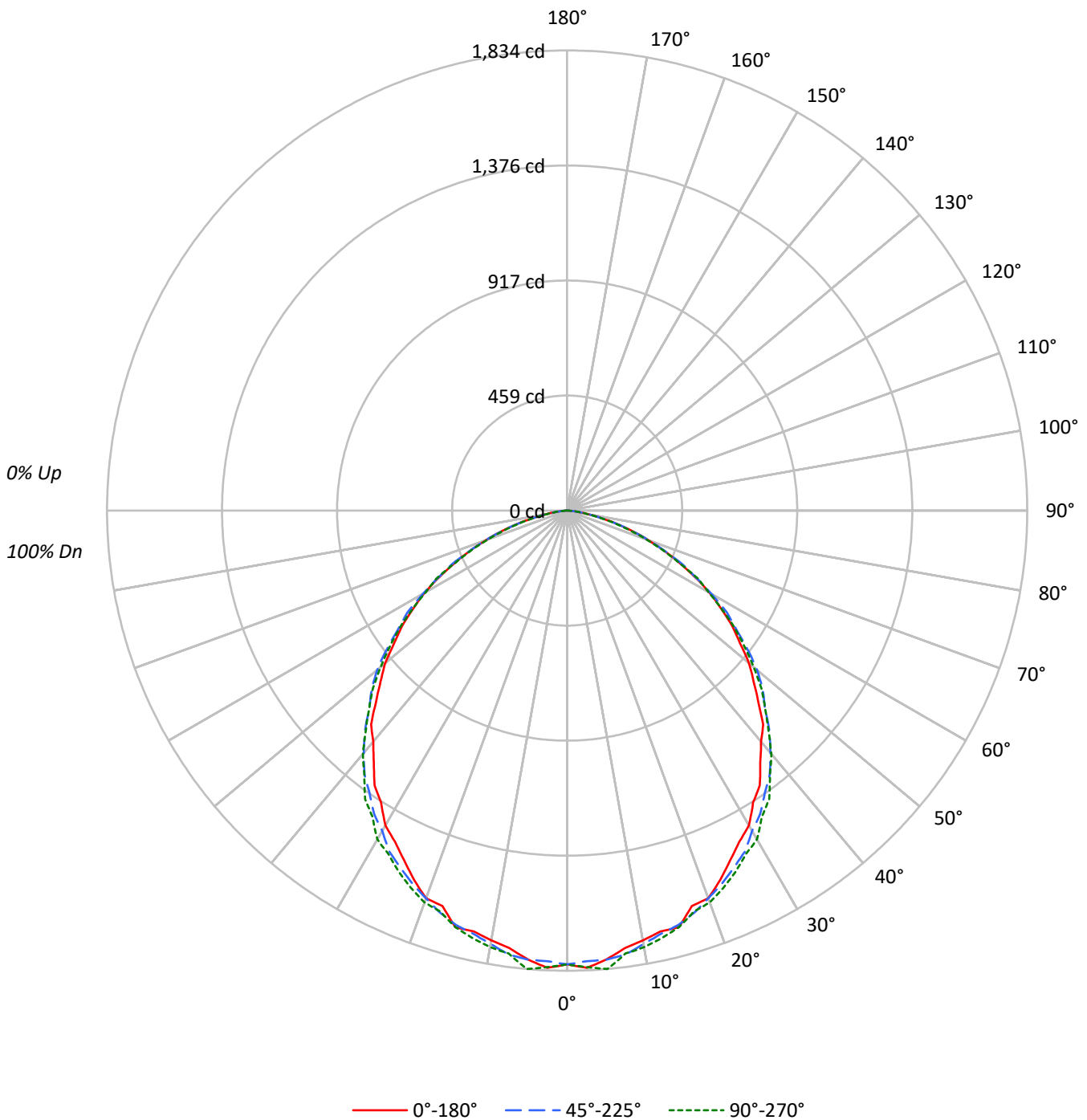
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	4867	4867	4867
5°	4851	4853	4955
10°	4752	4794	4827
15°	4790	4764	4790
20°	4709	4709	4759
25°	4564	4664	4715
30°	4502	4580	4702
35°	4395	4510	4612
40°	4225	4428	4448
45°	4097	4243	4249
50°	3962	4141	4062
55°	3775	3849	3821
60°	3530	3566	3501
65°	3147	3228	3125
70°	2701	2710	2634
75°	2139	2135	2051
80°	1433	1393	1339
85°	778	772	722

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4352 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.1	3.7
10°-20°	482.1	10.6
20°-30°	722.3	15.8
30°-40°	856.1	18.8
40°-50°	857.7	18.8
50°-60°	728.0	16.0
60°-70°	490.8	10.8
70°-80°	215.7	4.7
80°-90°	35.1	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°	1374.6	30.2
0°-40°	2230.7	48.9
0°-60°	3816.4	83.7
0°-90°	4558.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4558.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1808	1808	1808	1808	1808	
5°	1796	1792	1796	1791	1834	169
15°	1719	1700	1710	1719	1720	479
25°	1537	1546	1571	1591	1588	711
35°	1338	1342	1373	1405	1404	831
45°	1076	1096	1115	1144	1116	833
55°	805	799	820	815	814	716
65°	494	488	507	488	491	492
75°	206	202	205	191	197	220
85°	25	24	25	24	23	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1808.5	1808.5	1808.5	1808.5	1808.5
2.5°	1824.1	1810.4	1797.5	1812.5	1821.6
5°	1795.7	1791.5	1796.4	1791.0	1834.2
7.5°	1758.8	1774.9	1784.2	1778.4	1780.9
10°	1739.1	1733.5	1754.3	1768.8	1766.7
12.5°	1718.1	1726.5	1727.7	1743.4	1744.8
15°	1719.3	1699.5	1710.0	1718.8	1719.5
17.5°	1652.5	1674.0	1681.2	1701.6	1676.3
20°	1644.3	1628.7	1644.3	1665.1	1661.9
22.5°	1594.1	1576.6	1610.3	1628.7	1627.5
25°	1537.2	1545.6	1570.8	1591.3	1588.1
27.5°	1487.2	1497.0	1533.0	1561.2	1543.0
30°	1448.7	1443.8	1474.1	1499.3	1513.3
32.5°	1379.8	1397.5	1433.0	1458.0	1444.7
35°	1338.0	1342.0	1373.0	1404.8	1403.8
37.5°	1264.9	1283.3	1327.0	1335.9	1327.7
40°	1202.6	1221.0	1260.5	1270.0	1266.1
42.5°	1156.6	1159.8	1193.7	1204.7	1187.1
45°	1076.5	1096.5	1114.8	1143.5	1116.4
47.5°	1008.3	1017.6	1056.8	1064.6	1050.3
50°	946.4	949.7	989.1	979.6	970.2
52.5°	868.6	882.4	904.6	902.7	891.8
55°	804.7	799.3	820.3	814.7	814.5
57.5°	727.8	737.2	754.5	745.6	731.3
60°	655.9	656.2	662.5	652.4	650.5
62.5°	575.8	578.6	580.0	567.7	587.7
65°	494.3	487.8	506.9	487.6	490.8
67.5°	419.4	422.6	420.8	408.6	413.3
70°	343.3	347.5	344.4	330.6	334.8
72.5°	273.7	268.5	271.8	254.5	262.5
75°	205.7	201.5	205.3	190.8	197.3
77.5°	140.1	143.4	141.0	133.3	137.8
80°	92.5	89.9	89.9	85.5	86.4
82.5°	53.9	51.4	50.7	49.3	51.4
85°	25.2	24.5	25.0	24.3	23.4
87.5°	9.1	9.3	9.3	8.9	8.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)