

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: P590222

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590222
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-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4829.0 lumens
Efficiency: N/A
Efficacy: 111.8 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

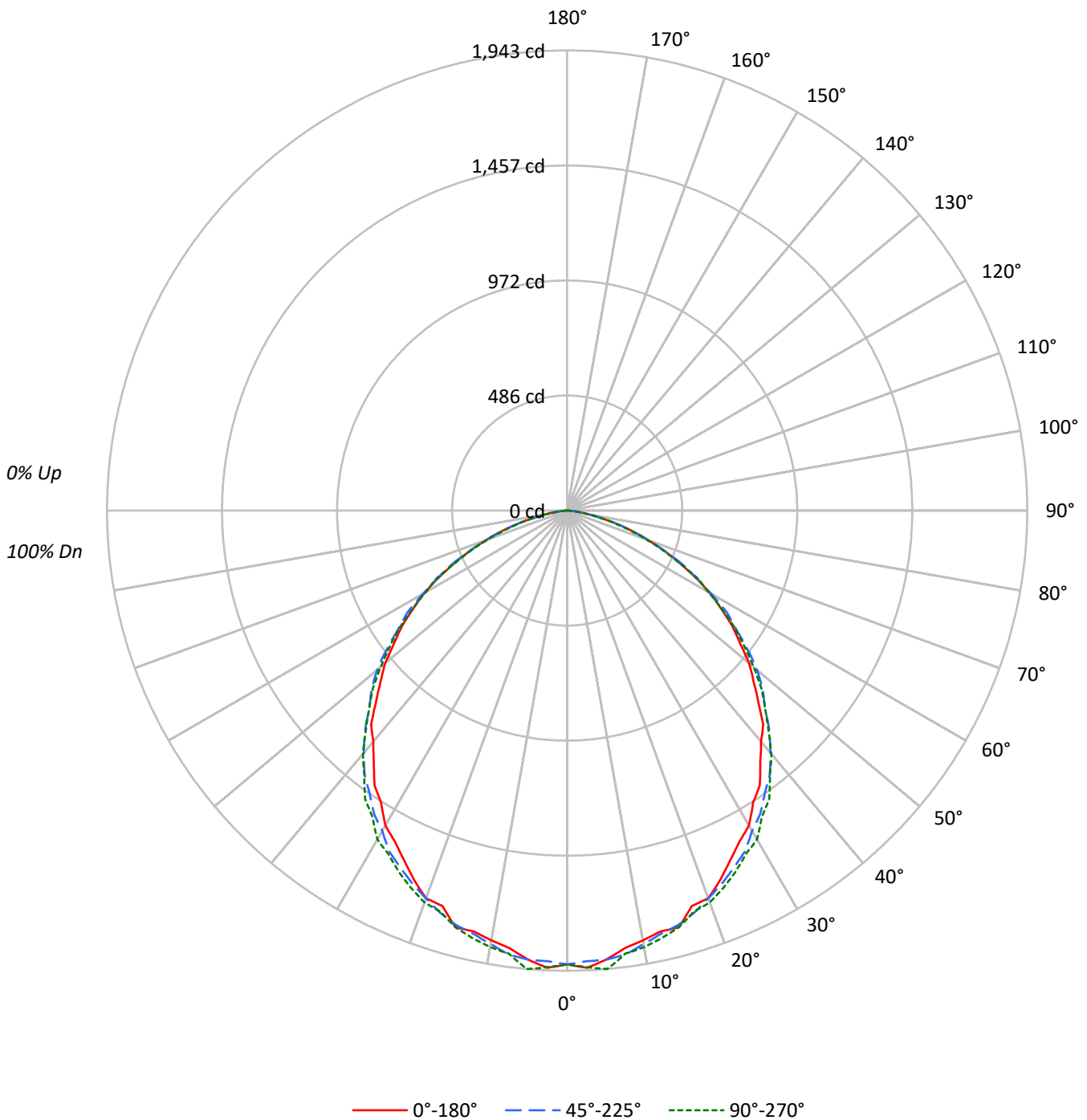
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5156	5156	5156
5°	5139	5141	5249
10°	5035	5079	5114
15°	5075	5047	5075
20°	4989	4989	5042
25°	4836	4941	4996
30°	4769	4853	4982
35°	4657	4778	4886
40°	4476	4691	4712
45°	4340	4494	4501
50°	4198	4387	4303
55°	4000	4077	4048
60°	3740	3777	3709
65°	3335	3420	3311
70°	2862	2871	2792
75°	2266	2261	2173
80°	1519	1475	1418
85°	824	818	763

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4611 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.2	3.7
10°-20°	510.8	10.6
20°-30°	765.3	15.8
30°-40°	907.0	18.8
40°-50°	908.7	18.8
50°-60°	771.3	16.0
60°-70°	520.0	10.8
70°-80°	228.5	4.7
80°-90°	37.1	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°	1456.3	30.2
0°-40°	2363.3	48.9
0°-60°	4043.3	83.7
0°-90°	4829.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4829.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1916	1916	1916	1916	1916	
5°	1902	1898	1903	1898	1943	179
15°	1822	1800	1812	1821	1822	508
25°	1629	1638	1664	1686	1682	753
35°	1418	1422	1455	1488	1487	880
45°	1140	1162	1181	1212	1183	882
55°	852	847	869	863	863	758
65°	524	517	537	516	520	521
75°	218	214	218	202	209	234
85°	27	26	26	26	25	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1916.0	1916.0	1916.0	1916.0	1916.0
2.5°	1932.6	1918.0	1904.4	1920.2	1929.9
5°	1902.4	1898.0	1903.2	1897.5	1943.2
7.5°	1863.3	1880.4	1890.3	1884.1	1886.8
10°	1842.6	1836.6	1858.6	1874.0	1871.7
12.5°	1820.3	1829.2	1830.4	1847.0	1848.5
15°	1821.5	1800.5	1811.6	1821.0	1821.8
17.5°	1750.8	1773.5	1781.2	1802.7	1776.0
20°	1742.1	1725.5	1742.1	1764.1	1760.7
22.5°	1688.9	1670.4	1706.0	1725.5	1724.3
25°	1628.6	1637.5	1664.2	1686.0	1682.5
27.5°	1575.6	1586.0	1624.1	1654.0	1634.7
30°	1534.8	1529.6	1561.8	1588.5	1603.3
32.5°	1461.8	1480.6	1518.2	1544.7	1530.6
35°	1417.5	1421.7	1454.6	1488.3	1487.3
37.5°	1340.1	1359.6	1405.9	1415.3	1406.7
40°	1274.1	1293.6	1335.4	1345.5	1341.3
42.5°	1225.3	1228.8	1264.7	1276.3	1257.7
45°	1140.5	1161.7	1181.0	1211.5	1182.8
47.5°	1068.2	1078.1	1119.7	1127.8	1112.8
50°	1002.7	1006.1	1047.9	1037.8	1027.9
52.5°	920.3	934.9	958.4	956.4	944.8
55°	852.5	846.8	869.1	863.1	862.9
57.5°	771.1	781.0	799.3	789.9	774.8
60°	694.9	695.2	701.8	691.2	689.2
62.5°	610.1	613.0	614.5	601.4	622.7
65°	523.7	516.8	537.1	516.5	520.0
67.5°	444.3	447.8	445.8	432.9	437.9
70°	363.7	368.1	364.9	350.3	354.8
72.5°	289.9	284.5	288.0	269.7	278.1
75°	217.9	213.5	217.5	202.1	209.0
77.5°	148.4	151.9	149.4	141.3	146.0
80°	98.0	95.2	95.2	90.5	91.5
82.5°	57.1	54.4	53.7	52.2	54.4
85°	26.7	26.0	26.5	25.7	24.7
87.5°	9.6	9.9	9.9	9.4	8.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)