

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: P562030

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562030
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-1HI-35-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3835.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

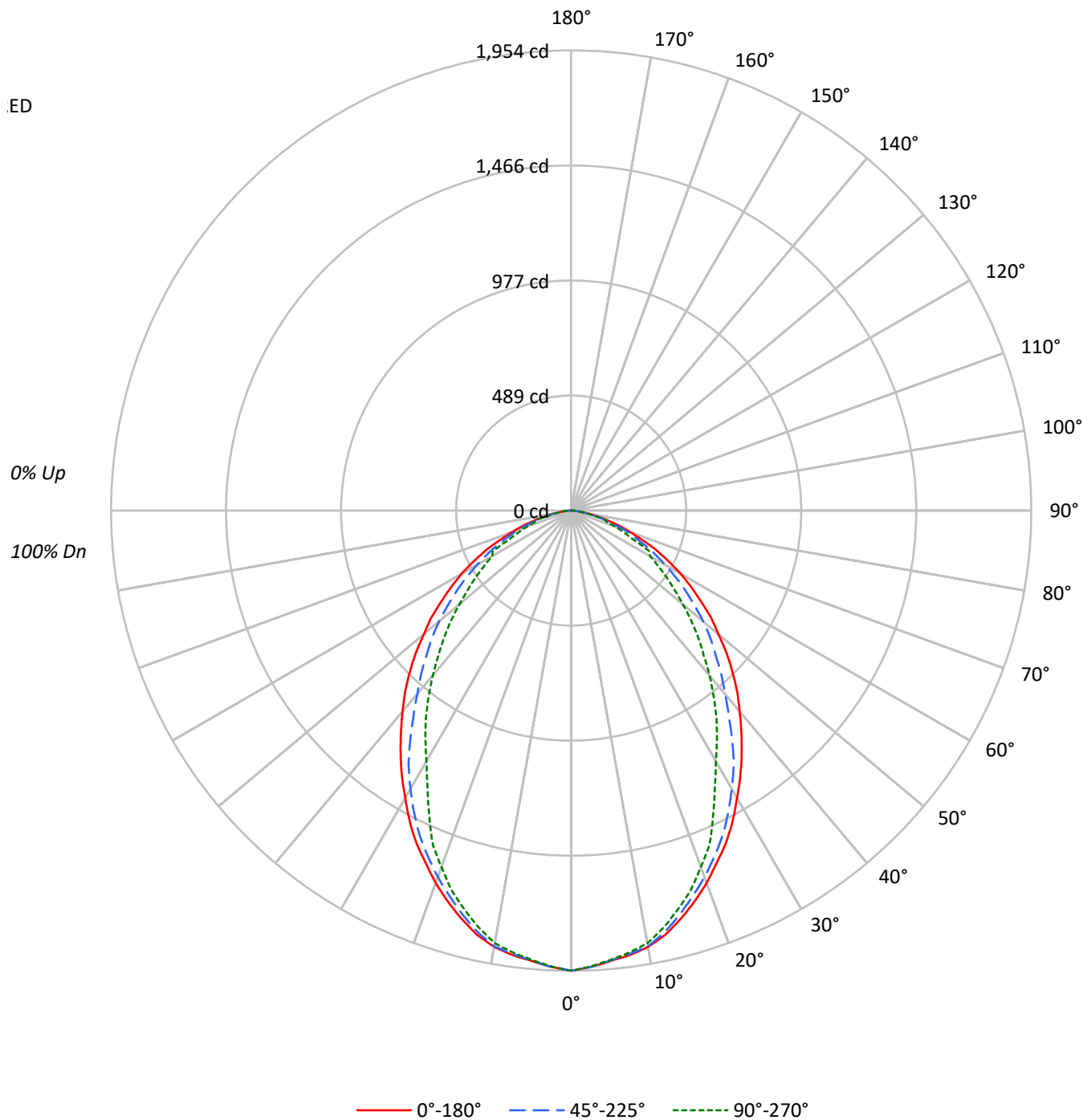
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2628	2628	2628
5°	2593	2590	2587
10°	2570	2567	2549
15°	2501	2476	2441
20°	2409	2370	2306
25°	2310	2260	2119
30°	2189	2119	1909
35°	2074	1959	1766
40°	1956	1785	1606
45°	1843	1650	1452
50°	1707	1532	1295
55°	1579	1388	1160
60°	1446	1240	1039
65°	1273	1086	920
70°	1048	950	782
75°	833	728	763
80°	560	525	490
85°	349	418	488

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1843 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.8	4.7
10°-20°	499.1	13.0
20°-30°	690.9	18.0
30°-40°	736.7	19.2
40°-50°	672.1	17.5
50°-60°	526.5	13.7
60°-70°	343.2	8.9
70°-80°	152.0	4.0
80°-90°	32.6	0.9
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°	1371.8	35.8
0°-40°	2108.5	55.0
0°-60°	3307.1	86.2
0°-90°	3835.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3835.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1954	1954	1954	1954	1954	
5°	1920	1917	1917	1915	1915	182
15°	1795	1795	1777	1759	1752	505
25°	1556	1547	1522	1468	1427	714
35°	1262	1253	1192	1102	1075	789
45°	969	948	867	795	763	746
55°	673	653	592	522	495	604
65°	400	377	341	348	289	394
75°	160	149	140	133	147	172
85°	23	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1953.5	1953.5	1953.5	1953.5	1953.5
2.5°	1939.9	1939.9	1939.9	1937.7	1937.7
5°	1919.6	1917.4	1917.4	1915.1	1915.1
7.5°	1903.8	1901.6	1899.3	1897.0	1892.5
10°	1881.2	1881.2	1879.0	1867.7	1865.4
12.5°	1845.1	1842.8	1833.8	1818.0	1813.5
15°	1795.4	1795.4	1777.3	1759.3	1752.5
17.5°	1741.2	1739.0	1716.4	1698.3	1689.3
20°	1682.5	1678.0	1655.4	1626.0	1610.2
22.5°	1617.0	1617.0	1589.9	1551.5	1535.7
25°	1556.0	1547.0	1522.1	1467.9	1427.3
27.5°	1486.0	1472.5	1445.4	1368.6	1321.2
30°	1409.2	1402.5	1364.1	1264.7	1228.6
32.5°	1337.0	1325.7	1285.0	1181.1	1151.8
35°	1262.4	1253.4	1192.4	1102.1	1075.0
37.5°	1187.9	1176.6	1099.8	1027.6	993.7
40°	1113.4	1099.8	1016.3	950.8	914.6
42.5°	1043.4	1025.3	944.0	874.0	833.3
45°	968.8	948.5	867.2	794.9	763.3
47.5°	894.3	876.3	801.7	727.2	691.1
50°	815.3	799.5	731.7	657.2	618.8
52.5°	749.8	724.9	659.4	584.9	553.3
55°	673.0	652.7	591.7	521.7	494.6
57.5°	603.0	582.7	526.2	460.7	438.1
60°	537.5	508.1	460.7	404.2	386.2
62.5°	465.2	442.6	402.0	354.6	377.1
65°	399.7	377.1	341.0	347.8	289.1
67.5°	327.5	316.2	284.6	252.9	243.9
70°	266.5	252.9	241.6	207.8	198.7
72.5°	212.3	198.7	182.9	164.9	158.1
75°	160.3	149.1	140.0	133.2	146.8
77.5°	110.7	106.1	99.4	92.6	90.3
80°	72.3	70.0	67.8	65.5	63.2
82.5°	42.9	42.9	42.9	42.9	42.9
85°	22.6	24.8	27.1	29.4	31.6
87.5°	13.6	13.6	15.8	18.1	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)