

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: P562381

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562381
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-LD4-1STD-40-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 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: 3712.0 lumens
Efficiency: N/A
Efficacy: 111.5 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

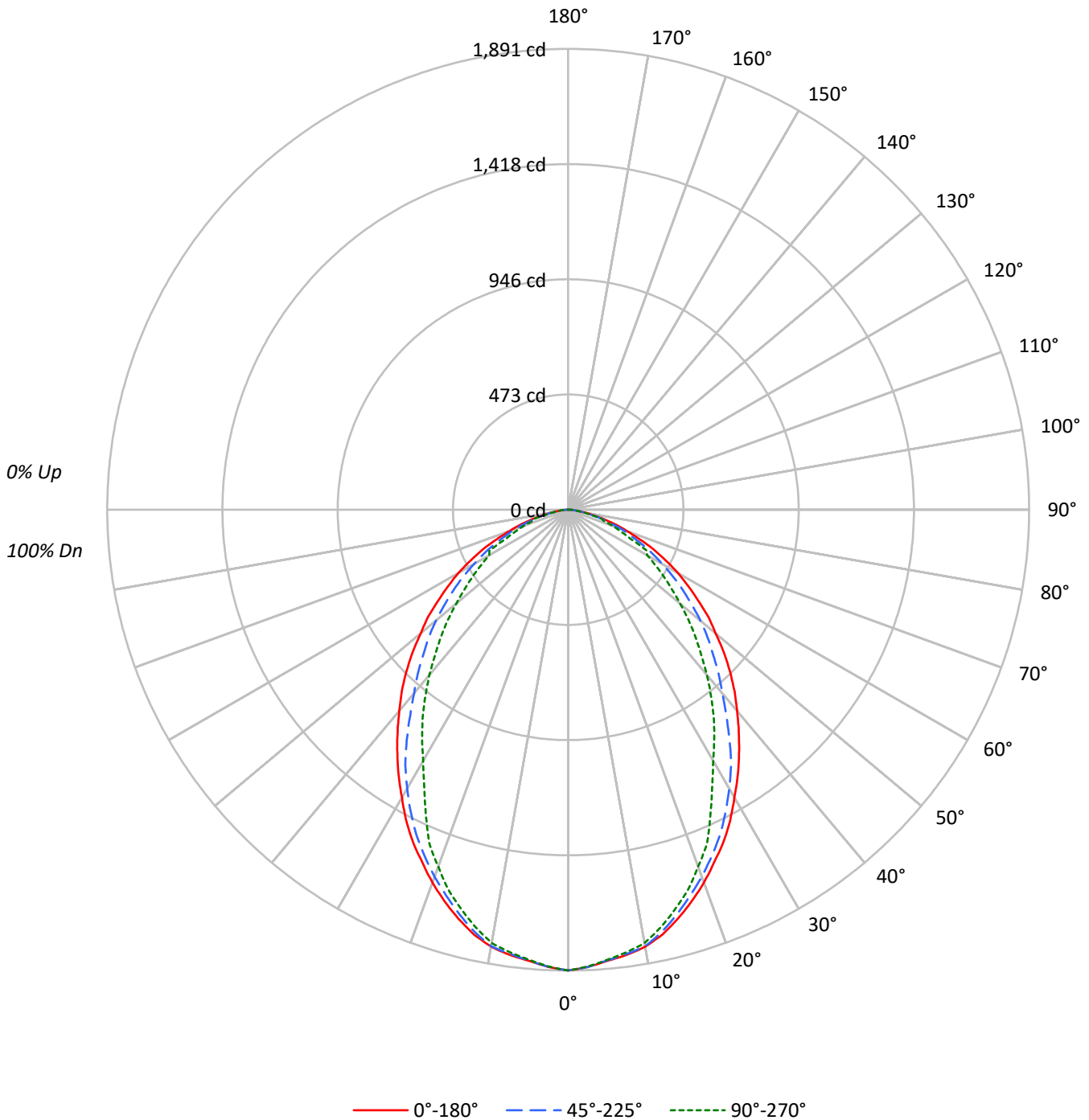
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2544	2544	2544
5°	2510	2507	2504
10°	2488	2485	2467
15°	2421	2396	2363
20°	2332	2294	2232
25°	2236	2187	2051
30°	2119	2051	1848
35°	2007	1896	1709
40°	1893	1728	1555
45°	1784	1597	1406
50°	1652	1482	1254
55°	1528	1343	1123
60°	1400	1200	1006
65°	1232	1051	891
70°	1015	920	757
75°	807	704	739
80°	542	508	474
85°	338	404	472

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1784 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.0	4.7
10°-20°	483.0	13.0
20°-30°	668.7	18.0
30°-40°	713.1	19.2
40°-50°	650.5	17.5
50°-60°	509.6	13.7
60°-70°	332.2	8.9
70°-80°	147.2	4.0
80°-90°	31.6	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°	1327.8	35.8
0°-40°	2040.9	55.0
0°-60°	3201.1	86.2
0°-90°	3712.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3712.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1891	1891	1891	1891	1891	
5°	1858	1856	1856	1854	1854	176
15°	1738	1738	1720	1703	1696	489
25°	1506	1497	1473	1421	1382	691
35°	1222	1213	1154	1067	1040	764
45°	938	918	839	770	739	722
55°	651	632	573	505	479	584
65°	387	365	330	337	280	381
75°	155	144	136	129	142	166
85°	22	24	26	28	31	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1890.8	1890.8	1890.8	1890.8	1890.8
2.5°	1877.7	1877.7	1877.7	1875.5	1875.5
5°	1858.1	1855.9	1855.9	1853.7	1853.7
7.5°	1842.8	1840.6	1838.4	1836.2	1831.8
10°	1820.9	1820.9	1818.7	1807.8	1805.6
12.5°	1785.9	1783.7	1775.0	1759.7	1755.3
15°	1737.8	1737.8	1720.3	1702.9	1696.3
17.5°	1685.4	1683.2	1661.3	1643.8	1635.1
20°	1628.5	1624.2	1602.3	1573.9	1558.6
22.5°	1565.1	1565.1	1538.9	1501.7	1486.4
25°	1506.1	1497.4	1473.3	1420.9	1381.5
27.5°	1438.4	1425.2	1399.0	1324.7	1278.8
30°	1364.0	1357.5	1320.3	1224.1	1189.2
32.5°	1294.1	1283.2	1243.8	1143.2	1114.8
35°	1221.9	1213.2	1154.2	1066.7	1040.5
37.5°	1149.8	1138.9	1064.6	994.6	961.8
40°	1077.7	1064.6	983.7	920.3	885.3
42.5°	1009.9	992.4	913.7	846.0	806.6
45°	937.8	918.1	839.4	769.5	738.8
47.5°	865.6	848.1	776.0	703.9	668.9
50°	789.1	773.8	708.2	636.1	598.9
52.5°	725.7	701.7	638.3	566.2	535.6
55°	651.4	631.7	572.7	505.0	478.7
57.5°	583.6	564.0	509.3	445.9	424.1
60°	520.3	491.8	445.9	391.3	373.8
62.5°	450.3	428.4	389.1	343.2	365.1
65°	386.9	365.1	330.1	336.6	279.8
67.5°	317.0	306.0	275.4	244.8	236.1
70°	257.9	244.8	233.9	201.1	192.4
72.5°	205.5	192.4	177.1	159.6	153.0
75°	155.2	144.3	135.5	129.0	142.1
77.5°	107.1	102.7	96.2	89.6	87.4
80°	70.0	67.8	65.6	63.4	61.2
82.5°	41.5	41.5	41.5	41.5	41.5
85°	21.9	24.0	26.2	28.4	30.6
87.5°	13.1	13.1	15.3	17.5	19.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)