

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: P562029

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562029
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-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4754.0 lumens
Efficiency: N/A
Efficacy: 110.0 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

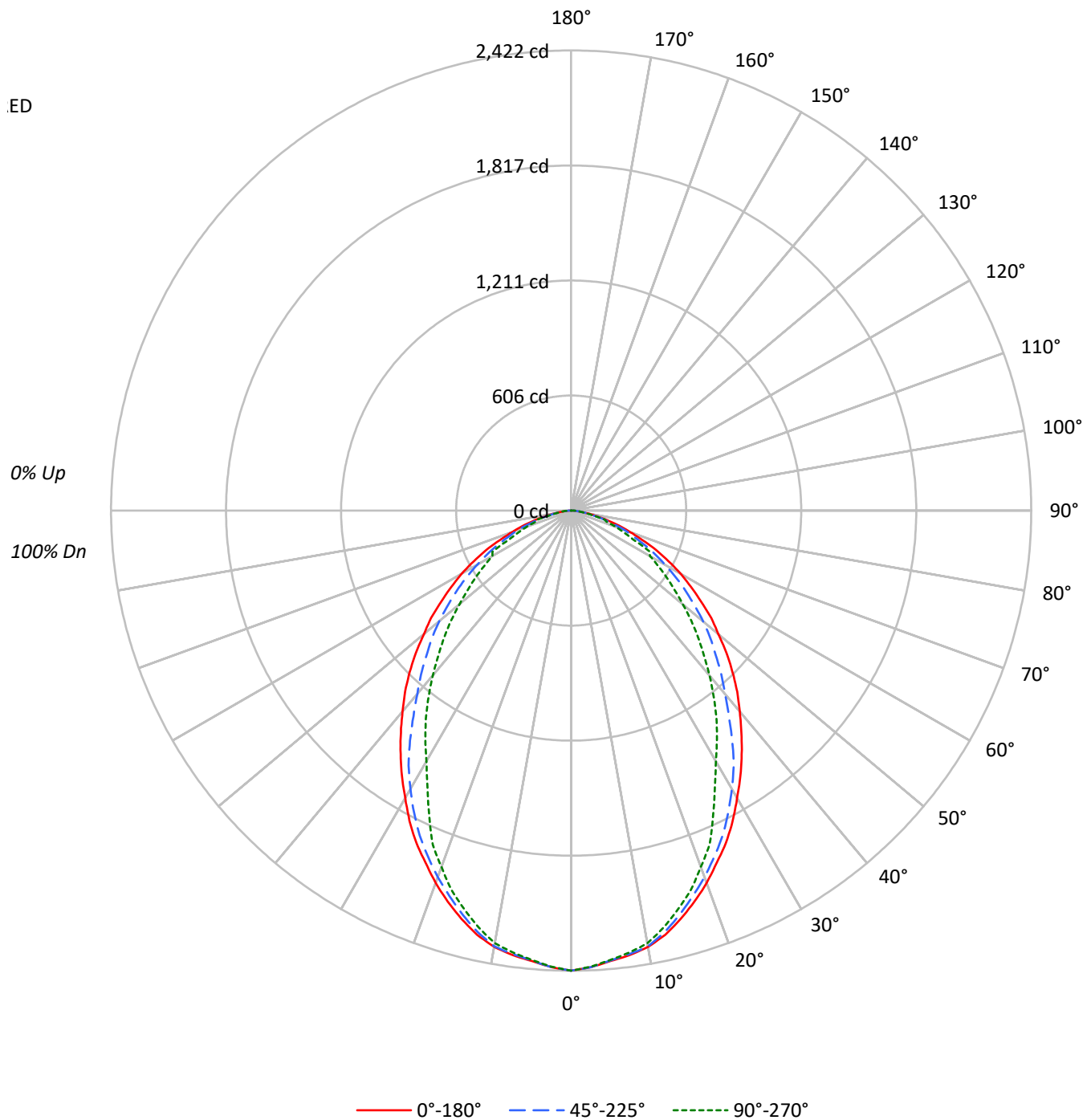
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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°	3258	3258	3258
5°	3214	3210	3206
10°	3186	3182	3159
15°	3100	3069	3026
20°	2986	2938	2858
25°	2864	2801	2627
30°	2714	2627	2366
35°	2571	2428	2189
40°	2424	2213	1991
45°	2285	2046	1801
50°	2115	1899	1606
55°	1957	1721	1438
60°	1793	1537	1288
65°	1578	1346	1141
70°	1299	1179	969
75°	1033	902	946
80°	694	651	607
85°	432	519	605

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2285 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.4	4.7
10°-20°	618.7	13.0
20°-30°	856.5	18.0
30°-40°	913.3	19.2
40°-50°	833.1	17.5
50°-60°	652.7	13.7
60°-70°	425.4	8.9
70°-80°	188.5	4.0
80°-90°	40.5	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°	1700.5	35.8
0°-40°	2613.8	55.0
0°-60°	4099.7	86.2
0°-90°	4754.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4754.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2422	2422	2422	2422	2422	
5°	2380	2377	2377	2374	2374	226
15°	2226	2226	2203	2181	2172	626
25°	1929	1918	1887	1820	1769	886
35°	1565	1554	1478	1366	1333	978
45°	1201	1176	1075	985	946	925
55°	834	809	734	647	613	748
65°	496	468	423	431	358	488
75°	199	185	174	165	182	213
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2421.6	2421.6	2421.6	2421.6	2421.6
2.5°	2404.8	2404.8	2404.8	2402.0	2402.0
5°	2379.6	2376.8	2376.8	2374.0	2374.0
7.5°	2360.0	2357.2	2354.4	2351.6	2346.0
10°	2332.0	2332.0	2329.2	2315.2	2312.4
12.5°	2287.2	2284.4	2273.2	2253.7	2248.1
15°	2225.7	2225.7	2203.3	2180.9	2172.5
17.5°	2158.5	2155.7	2127.7	2105.3	2094.1
20°	2085.7	2080.1	2052.1	2015.7	1996.1
22.5°	2004.5	2004.5	1970.9	1923.3	1903.7
25°	1928.9	1917.7	1886.9	1819.7	1769.3
27.5°	1842.1	1825.3	1791.7	1696.5	1637.7
30°	1746.9	1738.5	1690.9	1567.8	1523.0
32.5°	1657.3	1643.3	1593.0	1464.2	1427.8
35°	1565.0	1553.8	1478.2	1366.2	1332.6
37.5°	1472.6	1458.6	1363.4	1273.8	1231.8
40°	1380.2	1363.4	1259.8	1178.6	1133.8
42.5°	1293.4	1271.0	1170.2	1083.4	1033.0
45°	1201.0	1175.8	1075.0	985.4	946.3
47.5°	1108.6	1086.2	993.8	901.5	856.7
50°	1010.6	991.0	907.1	814.7	767.1
52.5°	929.5	898.7	817.5	725.1	685.9
55°	834.3	809.1	733.5	646.7	613.1
57.5°	747.5	722.3	652.3	571.1	543.1
60°	666.3	629.9	571.1	501.1	478.7
62.5°	576.7	548.7	498.3	439.5	467.5
65°	495.5	467.5	422.7	431.1	358.3
67.5°	405.9	391.9	352.7	313.6	302.4
70°	330.3	313.6	299.6	257.6	246.4
72.5°	263.2	246.4	226.8	204.4	196.0
75°	198.8	184.8	173.6	165.2	182.0
77.5°	137.2	131.6	123.2	114.8	112.0
80°	89.6	86.8	84.0	81.2	78.4
82.5°	53.2	53.2	53.2	53.2	53.2
85°	28.0	30.8	33.6	36.4	39.2
87.5°	16.8	16.8	19.6	22.4	25.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)