

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: P561832

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561832
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-12-4-LD4-2STD-40-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4769.0 lumens
Efficiency: N/A
Efficacy: 71.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

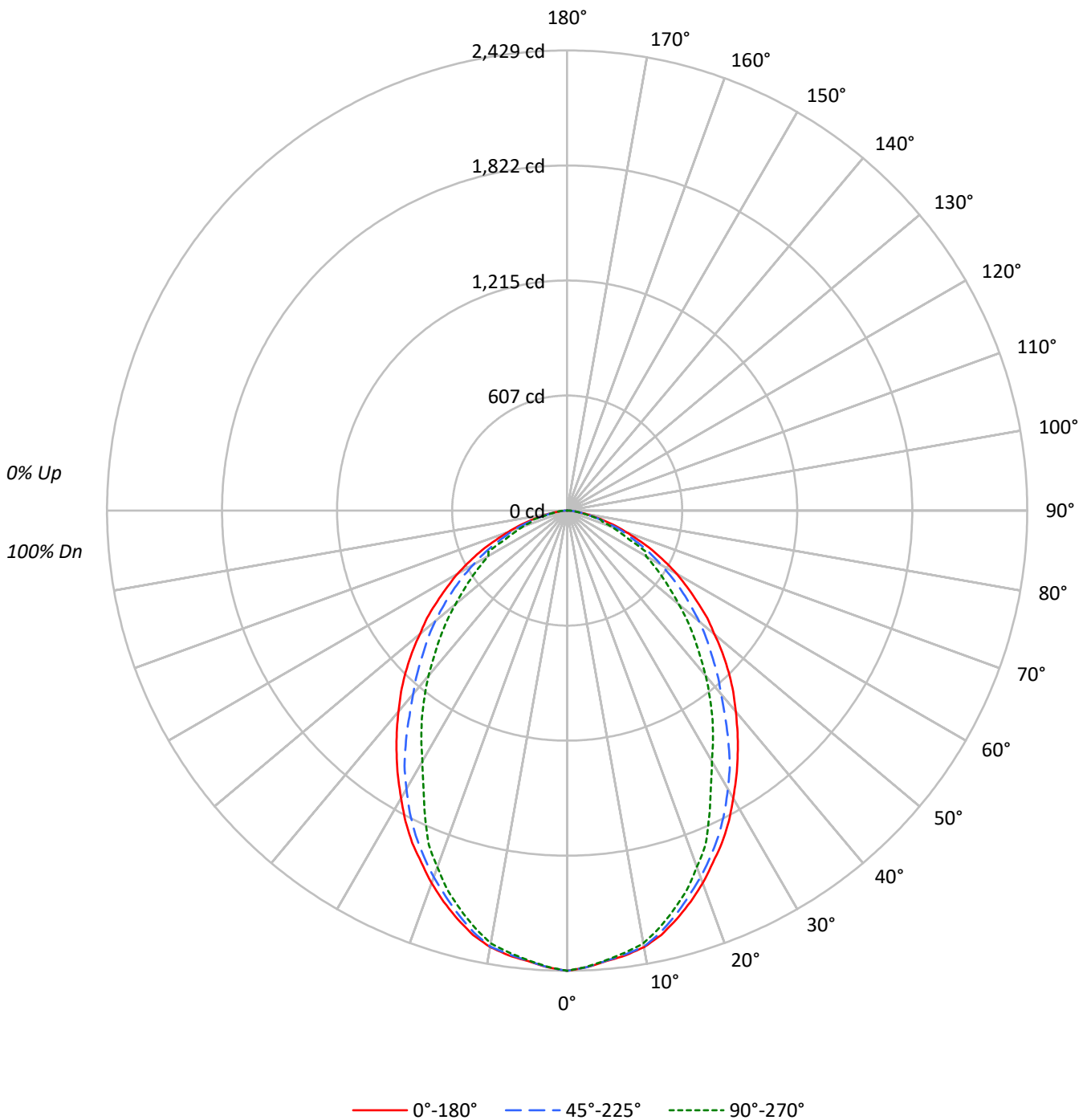
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6537	6537	6537
5°	6448	6441	6433
10°	6392	6385	6339
15°	6220	6157	6071
20°	5992	5895	5734
25°	5745	5620	5270
30°	5445	5271	4747
35°	5157	4871	4391
40°	4864	4440	3995
45°	4585	4104	3612
50°	4244	3809	3221
55°	3926	3452	2885
60°	3597	3083	2584
65°	3165	2700	2289
70°	2607	2364	1944
75°	2073	1810	1897
80°	1393	1306	1218
85°	868	1041	1213

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4585 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.1	4.7
10°-20°	620.6	13.0
20°-30°	859.2	18.0
30°-40°	916.1	19.2
40°-50°	835.8	17.5
50°-60°	654.8	13.7
60°-70°	426.7	8.9
70°-80°	189.1	4.0
80°-90°	40.6	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°	1705.9	35.8
0°-40°	2622.1	55.0
0°-60°	4112.6	86.2
0°-90°	4769.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4769.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2429	2429	2429	2429	2429	
5°	2387	2384	2384	2382	2382	227
15°	2233	2233	2210	2188	2179	628
25°	1935	1924	1893	1826	1775	888
35°	1570	1559	1483	1370	1337	981
45°	1205	1180	1078	989	949	928
55°	837	812	736	649	615	751
65°	497	469	424	432	360	490
75°	199	185	174	166	182	214
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°	2429.3	2429.3	2429.3	2429.3	2429.3
2.5°	2412.4	2412.4	2412.4	2409.6	2409.6
5°	2387.1	2384.3	2384.3	2381.5	2381.5
7.5°	2367.5	2364.7	2361.9	2359.1	2353.4
10°	2339.4	2339.4	2336.6	2322.5	2319.7
12.5°	2294.5	2291.7	2280.4	2260.8	2255.1
15°	2232.7	2232.7	2210.2	2187.7	2179.3
17.5°	2165.3	2162.5	2134.4	2111.9	2100.7
20°	2092.3	2086.6	2058.6	2022.0	2002.4
22.5°	2010.8	2010.8	1977.1	1929.4	1909.7
25°	1935.0	1923.8	1892.9	1825.5	1774.9
27.5°	1847.9	1831.1	1797.4	1701.9	1642.9
30°	1752.4	1744.0	1696.3	1572.7	1527.8
32.5°	1662.6	1648.5	1598.0	1468.8	1432.3
35°	1569.9	1558.7	1482.8	1370.5	1336.8
37.5°	1477.2	1463.2	1367.7	1277.8	1235.7
40°	1384.5	1367.7	1263.8	1182.3	1137.4
42.5°	1297.5	1275.0	1173.9	1086.9	1036.3
45°	1204.8	1179.5	1078.4	988.6	949.2
47.5°	1112.1	1089.7	997.0	904.3	859.4
50°	1013.8	994.2	909.9	817.2	769.5
52.5°	932.4	901.5	820.1	727.4	688.1
55°	836.9	811.6	735.8	648.7	615.0
57.5°	749.8	724.6	654.4	572.9	544.8
60°	668.4	631.9	572.9	502.7	480.2
62.5°	578.5	550.4	499.9	440.9	469.0
65°	497.1	469.0	424.1	432.5	359.5
67.5°	407.2	393.2	353.9	314.5	303.3
70°	331.4	314.5	300.5	258.4	247.1
72.5°	264.0	247.1	227.5	205.0	196.6
75°	199.4	185.4	174.1	165.7	182.5
77.5°	137.6	132.0	123.6	115.1	112.3
80°	89.9	87.1	84.3	81.4	78.6
82.5°	53.4	53.4	53.4	53.4	53.4
85°	28.1	30.9	33.7	36.5	39.3
87.5°	16.9	16.9	19.7	22.5	25.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)