

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: P562021

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562021
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-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4648.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

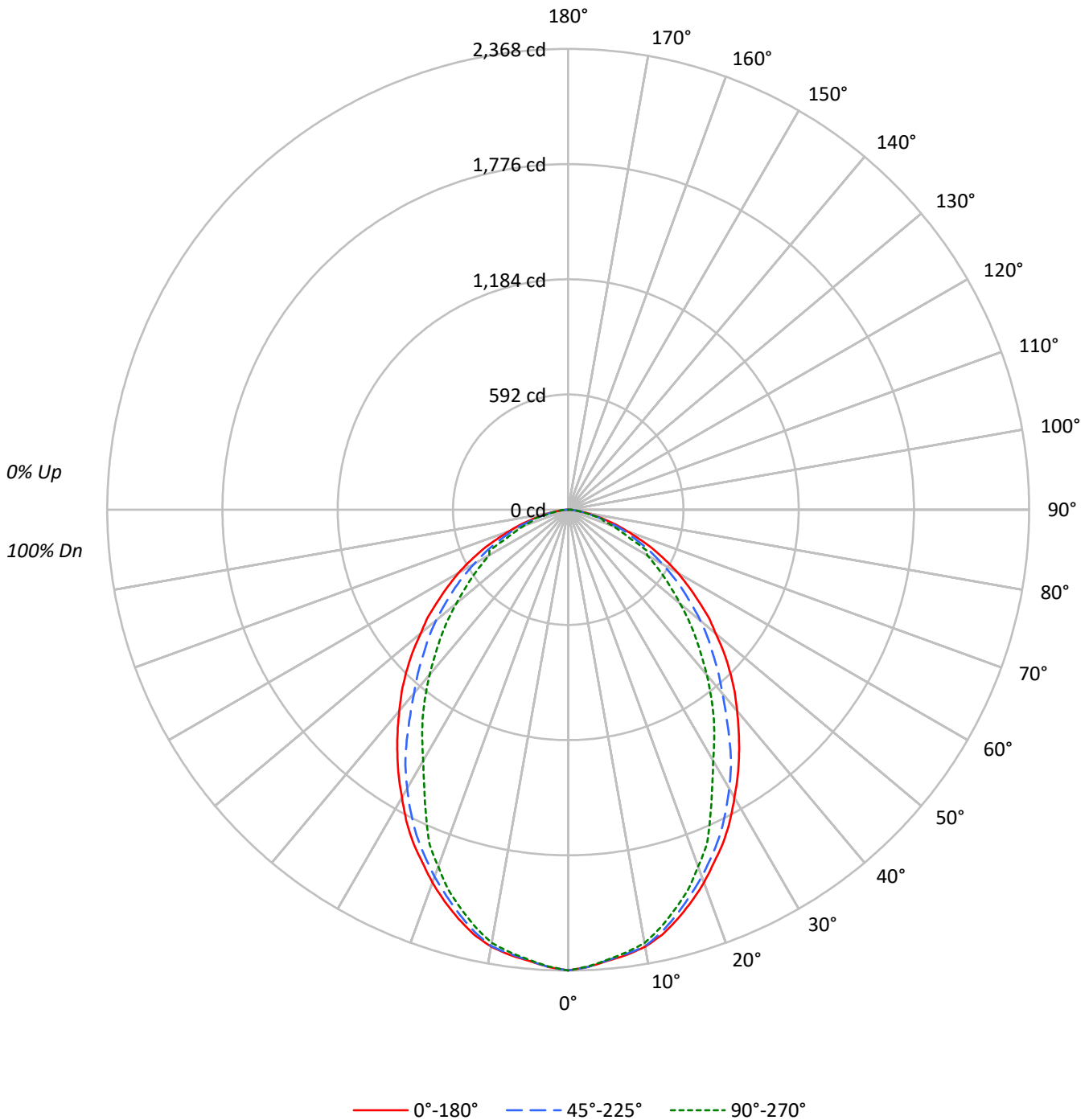
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3186	3186	3186
5°	3142	3139	3135
10°	3115	3111	3089
15°	3031	3001	2959
20°	2920	2873	2794
25°	2800	2739	2568
30°	2654	2568	2313
35°	2513	2374	2140
40°	2370	2163	1947
45°	2234	2000	1760
50°	2068	1856	1570
55°	1913	1682	1406
60°	1753	1503	1260
65°	1543	1316	1116
70°	1271	1152	948
75°	1010	882	925
80°	679	636	594
85°	423	506	591

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2234 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.4	4.7
10°-20°	604.8	13.0
20°-30°	837.4	18.0
30°-40°	892.9	19.2
40°-50°	814.6	17.5
50°-60°	638.1	13.7
60°-70°	415.9	8.9
70°-80°	184.3	4.0
80°-90°	39.6	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°	1662.6	35.8
0°-40°	2555.5	55.0
0°-60°	4008.2	86.2
0°-90°	4648.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4648.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2368	2368	2368	2368	2368	
5°	2327	2324	2324	2321	2321	221
15°	2176	2176	2154	2132	2124	612
25°	1886	1875	1845	1779	1730	866
35°	1530	1519	1445	1336	1303	957
45°	1174	1150	1051	964	925	905
55°	816	791	717	632	599	732
65°	484	457	413	422	350	477
75°	194	181	170	162	178	208
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2367.6	2367.6	2367.6	2367.6	2367.6
2.5°	2351.2	2351.2	2351.2	2348.5	2348.5
5°	2326.6	2323.8	2323.8	2321.1	2321.1
7.5°	2307.4	2304.7	2301.9	2299.2	2293.7
10°	2280.0	2280.0	2277.3	2263.6	2260.9
12.5°	2236.2	2233.5	2222.6	2203.4	2197.9
15°	2176.0	2176.0	2154.1	2132.2	2124.0
17.5°	2110.3	2107.6	2080.2	2058.3	2047.4
20°	2039.2	2033.7	2006.3	1970.7	1951.6
22.5°	1959.8	1959.8	1926.9	1880.4	1861.3
25°	1885.9	1874.9	1844.8	1779.1	1729.9
27.5°	1801.0	1784.6	1751.8	1658.7	1601.2
30°	1708.0	1699.8	1653.2	1532.8	1489.0
32.5°	1620.4	1606.7	1557.4	1431.5	1395.9
35°	1530.1	1519.1	1445.2	1335.7	1302.9
37.5°	1439.7	1426.1	1333.0	1245.4	1204.3
40°	1349.4	1333.0	1231.7	1152.3	1108.5
42.5°	1264.6	1242.7	1144.1	1059.3	1010.0
45°	1174.2	1149.6	1051.1	963.5	925.2
47.5°	1083.9	1062.0	971.7	881.4	837.6
50°	988.1	968.9	886.8	796.5	750.0
52.5°	908.7	878.6	799.2	708.9	670.6
55°	815.7	791.0	717.1	632.3	599.4
57.5°	730.8	706.2	637.8	558.4	531.0
60°	651.4	615.9	558.4	489.9	468.1
62.5°	563.9	536.5	487.2	429.7	457.1
65°	484.5	457.1	413.3	421.5	350.4
67.5°	396.9	383.2	344.9	306.6	295.6
70°	323.0	306.6	292.9	251.8	240.9
72.5°	257.3	240.9	221.7	199.8	191.6
75°	194.3	180.7	169.7	161.5	177.9
77.5°	134.1	128.6	120.4	112.2	109.5
80°	87.6	84.9	82.1	79.4	76.6
82.5°	52.0	52.0	52.0	52.0	52.0
85°	27.4	30.1	32.8	35.6	38.3
87.5°	16.4	16.4	19.2	21.9	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)