

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: P562159

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562159
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-50-UNV-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4708.0 lumens
Efficiency: N/A
Efficacy: 109.0 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

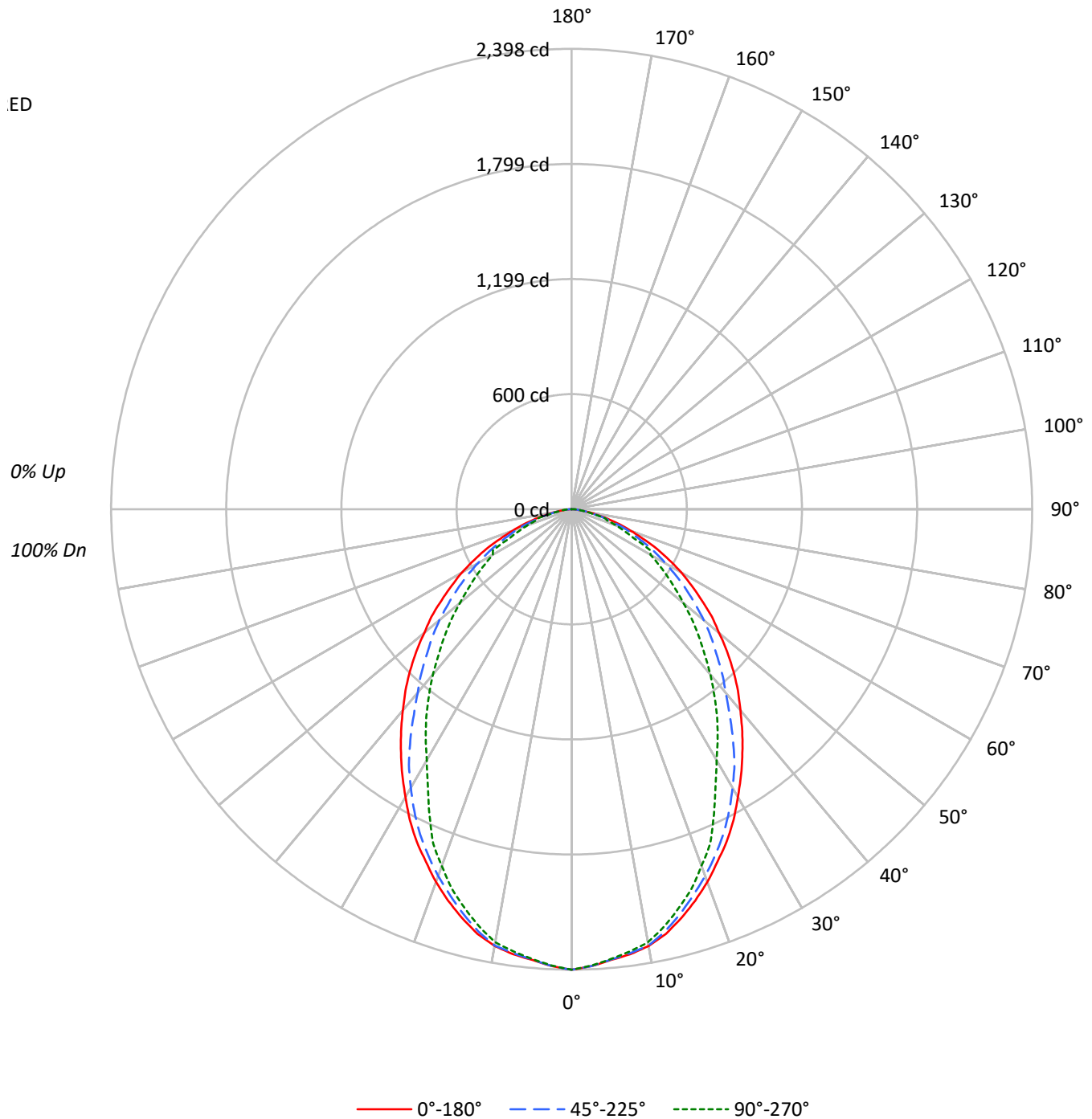
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3227	3227	3227
5°	3183	3179	3175
10°	3155	3152	3129
15°	3070	3039	2997
20°	2957	2910	2830
25°	2836	2774	2601
30°	2688	2602	2343
35°	2546	2405	2168
40°	2401	2191	1972
45°	2263	2026	1783
50°	2095	1880	1590
55°	1938	1704	1424
60°	1776	1522	1276
65°	1562	1333	1130
70°	1287	1167	960
75°	1023	894	937
80°	687	645	601
85°	428	514	599

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2263 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.2	4.7
10°-20°	612.7	13.0
20°-30°	848.2	18.0
30°-40°	904.4	19.2
40°-50°	825.1	17.5
50°-60°	646.4	13.7
60°-70°	421.3	8.9
70°-80°	186.7	4.0
80°-90°	40.1	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°	1684.1	35.8
0°-40°	2588.5	55.0
0°-60°	4060.0	86.2
0°-90°	4708.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4708.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2398	2398	2398	2398	2398	
5°	2357	2354	2354	2351	2351	224
15°	2204	2204	2182	2160	2151	620
25°	1910	1899	1869	1802	1752	877
35°	1550	1539	1464	1353	1320	969
45°	1189	1164	1065	976	937	916
55°	826	801	726	640	607	741
65°	491	463	419	427	355	484
75°	197	183	172	164	180	211
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2398.2	2398.2	2398.2	2398.2	2398.2
2.5°	2381.6	2381.6	2381.6	2378.8	2378.8
5°	2356.6	2353.8	2353.8	2351.1	2351.1
7.5°	2337.2	2334.4	2331.7	2328.9	2323.3
10°	2309.5	2309.5	2306.7	2292.8	2290.1
12.5°	2265.1	2262.3	2251.3	2231.8	2226.3
15°	2204.1	2204.1	2181.9	2159.8	2151.4
17.5°	2137.6	2134.8	2107.1	2084.9	2073.8
20°	2065.5	2060.0	2032.2	1996.2	1976.8
22.5°	1985.1	1985.1	1951.8	1904.7	1885.3
25°	1910.2	1899.1	1868.6	1802.1	1752.2
27.5°	1824.3	1807.7	1774.4	1680.1	1621.9
30°	1730.0	1721.7	1674.6	1552.6	1508.2
32.5°	1641.3	1627.4	1577.5	1450.0	1414.0
35°	1549.8	1538.7	1463.9	1353.0	1319.7
37.5°	1458.3	1444.5	1350.2	1261.5	1219.9
40°	1366.8	1350.2	1247.6	1167.2	1122.9
42.5°	1280.9	1258.7	1158.9	1072.9	1023.0
45°	1189.4	1164.4	1064.6	975.9	937.1
47.5°	1097.9	1075.7	984.2	892.7	848.4
50°	1000.9	981.5	898.3	806.8	759.7
52.5°	920.5	890.0	809.6	718.1	679.3
55°	826.2	801.2	726.4	640.4	607.2
57.5°	740.3	715.3	646.0	565.6	537.9
60°	659.8	623.8	565.6	496.3	474.1
62.5°	571.1	543.4	493.5	435.3	463.0
65°	490.7	463.0	418.6	427.0	354.9
67.5°	402.0	388.1	349.3	310.5	299.4
70°	327.2	310.5	296.7	255.1	244.0
72.5°	260.6	244.0	224.6	202.4	194.1
75°	196.8	183.0	171.9	163.6	180.2
77.5°	135.9	130.3	122.0	113.7	110.9
80°	88.7	85.9	83.2	80.4	77.6
82.5°	52.7	52.7	52.7	52.7	52.7
85°	27.7	30.5	33.3	36.0	38.8
87.5°	16.6	16.6	19.4	22.2	25.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)