

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: P560938

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560938
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-LD4-1HI-50-UNV-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3656.0 lumens
Efficiency: N/A
Efficacy: 84.6 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

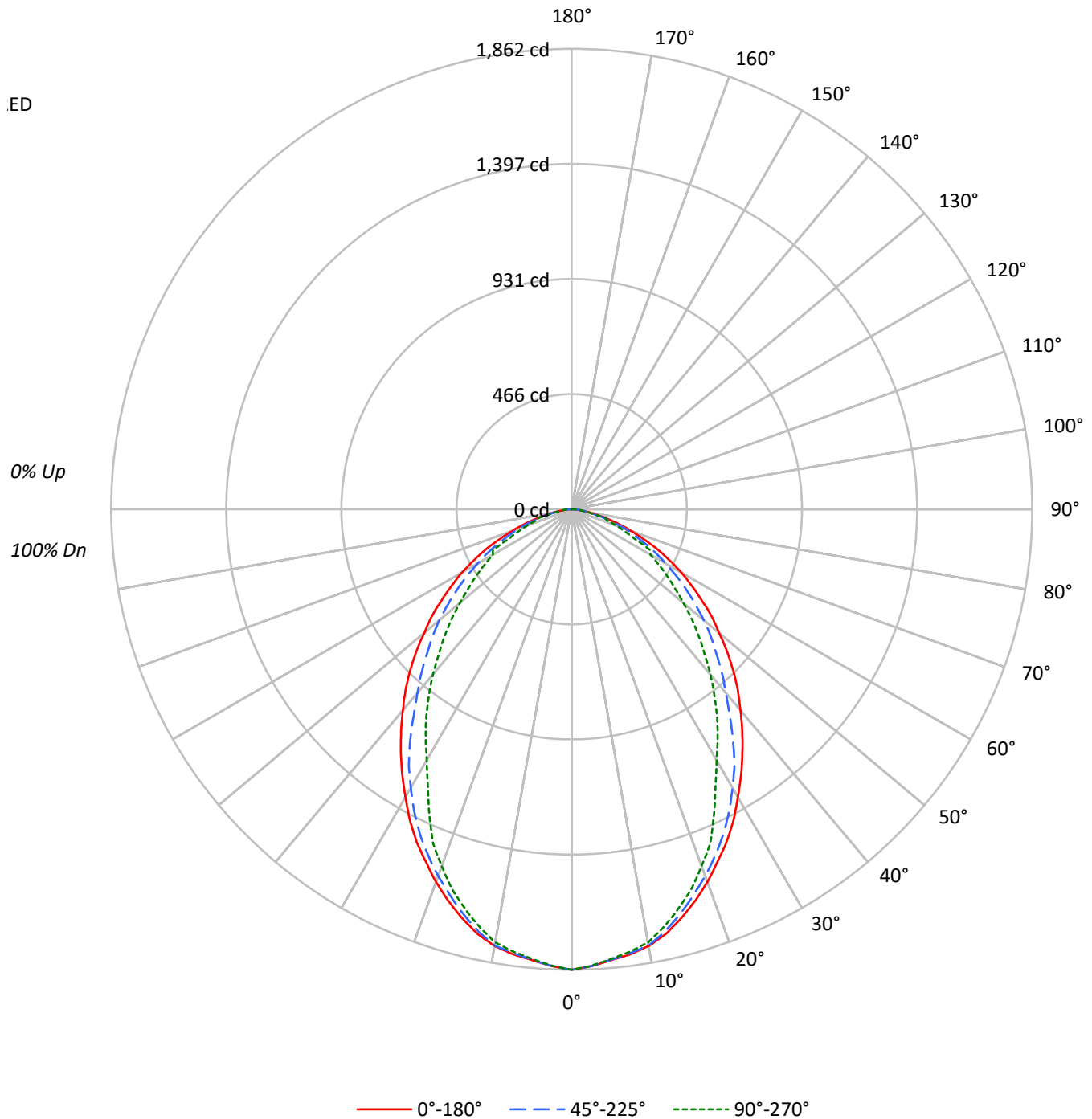
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5011	5011	5011
5°	4943	4938	4932
10°	4900	4895	4859
15°	4768	4720	4654
20°	4593	4519	4396
25°	4404	4309	4040
30°	4175	4041	3639
35°	3954	3734	3367
40°	3729	3403	3063
45°	3515	3146	2769
50°	3254	2920	2470
55°	3010	2647	2212
60°	2758	2364	1982
65°	2427	2070	1755
70°	1999	1813	1491
75°	1590	1388	1455
80°	1068	1001	934
85°	664	797	929

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3515 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.4	4.7
10°-20°	475.8	13.0
20°-30°	658.7	18.0
30°-40°	702.3	19.2
40°-50°	640.7	17.5
50°-60°	502.0	13.7
60°-70°	327.2	8.9
70°-80°	144.9	4.0
80°-90°	31.1	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°	1307.8	35.8
0°-40°	2010.1	55.0
0°-60°	3152.8	86.2
0°-90°	3656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3656.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1862	1862	1862	1862	1862	
5°	1830	1828	1828	1826	1826	174
15°	1712	1712	1694	1677	1671	481
25°	1483	1475	1451	1399	1361	681
35°	1204	1195	1137	1051	1025	752
45°	924	904	827	758	728	711
55°	642	622	564	497	472	575
65°	381	360	325	332	276	376
75°	153	142	134	127	140	164
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1862.3	1862.3	1862.3	1862.3	1862.3
2.5°	1849.4	1849.4	1849.4	1847.2	1847.2
5°	1830.0	1827.9	1827.9	1825.7	1825.7
7.5°	1815.0	1812.8	1810.6	1808.5	1804.2
10°	1793.4	1793.4	1791.3	1780.5	1778.4
12.5°	1759.0	1756.8	1748.2	1733.1	1728.8
15°	1711.6	1711.6	1694.4	1677.2	1670.7
17.5°	1659.9	1657.8	1636.3	1619.0	1610.4
20°	1604.0	1599.7	1578.1	1550.1	1535.1
22.5°	1541.5	1541.5	1515.7	1479.1	1464.0
25°	1483.4	1474.8	1451.1	1399.4	1360.7
27.5°	1416.7	1403.7	1377.9	1304.7	1259.5
30°	1343.5	1337.0	1300.4	1205.7	1171.2
32.5°	1274.6	1263.8	1225.0	1126.0	1098.0
35°	1203.5	1194.9	1136.8	1050.6	1024.8
37.5°	1132.5	1121.7	1048.5	979.6	947.3
40°	1061.4	1048.5	968.8	906.4	872.0
42.5°	994.7	977.4	899.9	833.2	794.4
45°	923.6	904.2	826.7	757.8	727.7
47.5°	852.6	835.4	764.3	693.3	658.8
50°	777.2	762.2	697.6	626.5	589.9
52.5°	714.8	691.1	628.7	557.6	527.5
55°	641.6	622.2	564.1	497.3	471.5
57.5°	574.8	555.5	501.6	439.2	417.7
60°	512.4	484.4	439.2	385.4	368.2
62.5°	443.5	422.0	383.2	338.0	359.5
65°	381.1	359.5	325.1	331.6	275.6
67.5°	312.2	301.4	271.3	241.1	232.5
70°	254.1	241.1	230.4	198.1	189.5
72.5°	202.4	189.5	174.4	157.2	150.7
75°	152.9	142.1	133.5	127.0	139.9
77.5°	105.5	101.2	94.7	88.3	86.1
80°	68.9	66.7	64.6	62.4	60.3
82.5°	40.9	40.9	40.9	40.9	40.9
85°	21.5	23.7	25.8	28.0	30.1
87.5°	12.9	12.9	15.1	17.2	19.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)