

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: P561700

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561700
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-LD4-2LO-50-UNV-93-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4304.0 lumens
Efficiency: N/A
Efficacy: 92.0 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

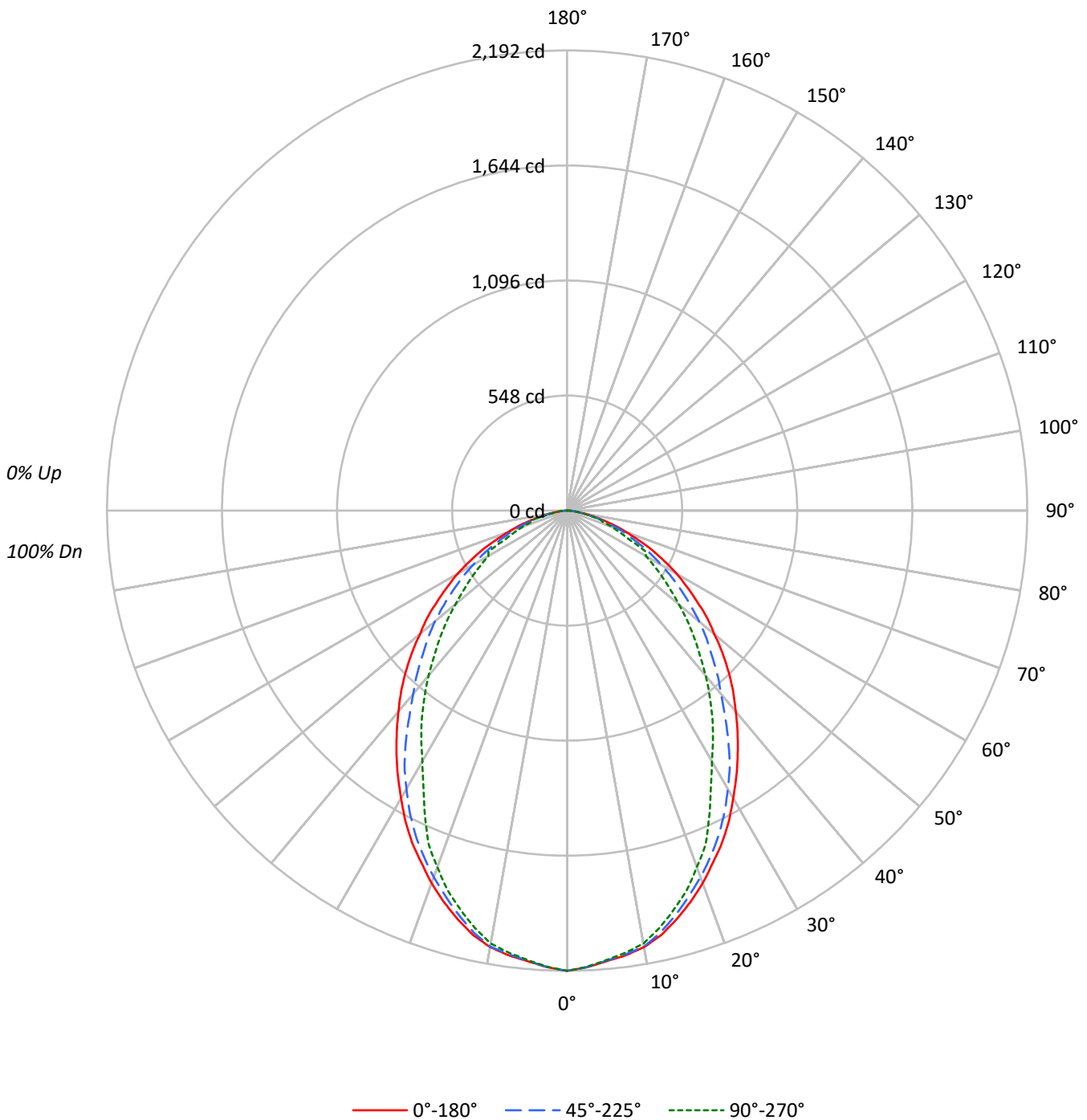
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5900	5900	5900
5°	5820	5813	5806
10°	5769	5762	5721
15°	5614	5557	5479
20°	5407	5320	5175
25°	5185	5072	4756
30°	4914	4757	4284
35°	4654	4396	3963
40°	4389	4007	3606
45°	4138	3704	3260
50°	3831	3438	2907
55°	3544	3116	2604
60°	3246	2783	2333
65°	2856	2437	2066
70°	2353	2134	1755
75°	1871	1633	1712
80°	1257	1178	1100
85°	781	939	1096

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4138 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.1	4.7
10°-20°	560.1	13.0
20°-30°	775.4	18.0
30°-40°	826.8	19.2
40°-50°	754.3	17.5
50°-60°	590.9	13.7
60°-70°	385.1	8.9
70°-80°	170.6	4.0
80°-90°	36.6	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°	1539.6	35.8
0°-40°	2366.4	55.0
0°-60°	3711.6	86.2
0°-90°	4304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4304.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2192	2192	2192	2192	2192	
5°	2154	2152	2152	2149	2149	205
15°	2015	2015	1995	1974	1967	566
25°	1746	1736	1708	1648	1602	802
35°	1417	1407	1338	1237	1206	886
45°	1087	1064	973	892	857	838
55°	755	732	664	586	555	677
65°	449	423	383	390	324	442
75°	180	167	157	150	165	193
85°	25	28	30	33	36	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2192.4	2192.4	2192.4	2192.4	2192.4
2.5°	2177.2	2177.2	2177.2	2174.7	2174.7
5°	2154.4	2151.8	2151.8	2149.3	2149.3
7.5°	2136.6	2134.1	2131.6	2129.0	2124.0
10°	2111.3	2111.3	2108.8	2096.1	2093.6
12.5°	2070.7	2068.2	2058.1	2040.3	2035.3
15°	2015.0	2015.0	1994.7	1974.4	1966.8
17.5°	1954.2	1951.6	1926.3	1906.0	1895.9
20°	1888.3	1883.2	1857.8	1824.9	1807.1
22.5°	1814.7	1814.7	1784.3	1741.2	1723.5
25°	1746.3	1736.2	1708.3	1647.5	1601.8
27.5°	1667.7	1652.5	1622.1	1535.9	1482.7
30°	1581.6	1574.0	1530.9	1419.4	1378.8
32.5°	1500.5	1487.8	1442.2	1325.6	1292.6
35°	1416.8	1406.7	1338.3	1236.9	1206.5
37.5°	1333.2	1320.5	1234.3	1153.2	1115.2
40°	1249.5	1234.3	1140.6	1067.1	1026.5
42.5°	1171.0	1150.7	1059.4	980.9	935.3
45°	1087.3	1064.5	973.3	892.2	856.7
47.5°	1003.7	983.4	899.8	816.1	775.6
50°	915.0	897.2	821.2	737.6	694.5
52.5°	841.5	813.6	740.1	656.5	621.0
55°	755.3	732.5	664.1	585.5	555.1
57.5°	676.7	653.9	590.6	517.1	491.7
60°	603.2	570.3	517.1	453.7	433.4
62.5°	522.1	496.8	451.2	397.9	423.3
65°	448.6	423.3	382.7	390.3	324.4
67.5°	367.5	354.8	319.4	283.9	273.7
70°	299.1	283.9	271.2	233.2	223.0
72.5°	238.2	223.0	205.3	185.0	177.4
75°	180.0	167.3	157.1	149.5	164.7
77.5°	124.2	119.1	111.5	103.9	101.4
80°	81.1	78.6	76.0	73.5	71.0
82.5°	48.2	48.2	48.2	48.2	48.2
85°	25.3	27.9	30.4	32.9	35.5
87.5°	15.2	15.2	17.7	20.3	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)