

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: P564000

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564000
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-LD4-4LO-50-UNV-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10437.0 lumens
Efficiency: N/A
Efficacy: 111.5 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

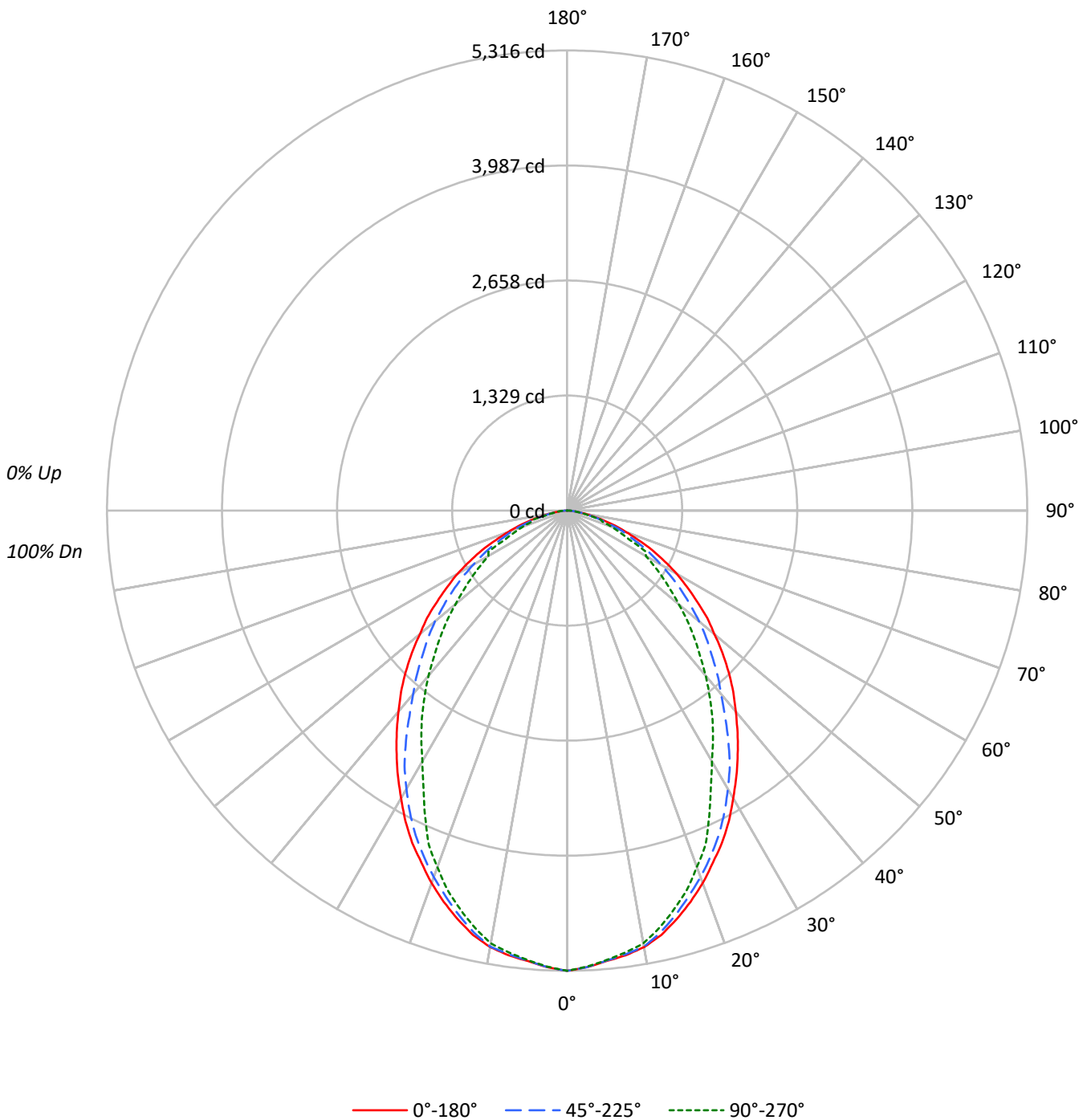
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7153	7153	7153
5°	7056	7048	7039
10°	6995	6986	6936
15°	6806	6738	6644
20°	6556	6451	6275
25°	6287	6150	5767
30°	5959	5768	5195
35°	5643	5330	4805
40°	5322	4858	4372
45°	5017	4491	3953
50°	4644	4168	3525
55°	4297	3777	3157
60°	3936	3374	2828
65°	3464	2955	2505
70°	2853	2587	2128
75°	2269	1981	2077
80°	1524	1429	1333
85°	949	1139	1328

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5017 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	494.9	4.7
10°-20°	1358.2	13.0
20°-30°	1880.3	18.0
30°-40°	2005.0	19.2
40°-50°	1829.1	17.5
50°-60°	1433.0	13.7
60°-70°	933.9	8.9
70°-80°	413.8	4.0
80°-90°	88.8	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°	3733.4	35.8
0°-40°	5738.4	55.0
0°-60°	9000.4	86.2
0°-90°	10437.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5316	5316	5316	5316	5316	
5°	5224	5218	5218	5212	5212	496
15°	4886	4886	4837	4788	4770	1374
25°	4235	4210	4142	3995	3884	1944
35°	3436	3411	3245	2999	2926	2148
45°	2637	2581	2360	2164	2077	2031
55°	1832	1776	1610	1420	1346	1643
65°	1088	1026	928	946	787	1072
75°	436	406	381	363	400	468
85°	62	68	74	80	86	85
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5316.5	5316.5	5316.5	5316.5	5316.5
2.5°	5279.6	5279.6	5279.6	5273.4	5273.4
5°	5224.3	5218.1	5218.1	5212.0	5212.0
7.5°	5181.3	5175.1	5169.0	5162.8	5150.5
10°	5119.8	5119.8	5113.6	5082.9	5076.8
12.5°	5021.5	5015.3	4990.7	4947.7	4935.4
15°	4886.2	4886.2	4837.1	4787.9	4769.5
17.5°	4738.7	4732.6	4671.1	4621.9	4597.4
20°	4578.9	4566.6	4505.2	4425.3	4382.2
22.5°	4400.7	4400.7	4326.9	4222.4	4179.4
25°	4234.7	4210.2	4142.5	3995.0	3884.4
27.5°	4044.2	4007.3	3933.6	3724.6	3595.5
30°	3835.2	3816.8	3712.3	3441.9	3343.5
32.5°	3638.6	3607.8	3497.2	3214.5	3134.6
35°	3435.7	3411.1	3245.2	2999.3	2925.6
37.5°	3232.9	3202.2	2993.2	2796.5	2704.3
40°	3030.1	2993.2	2765.8	2587.6	2489.2
42.5°	2839.5	2790.4	2569.1	2378.6	2268.0
45°	2636.7	2581.4	2360.1	2163.5	2077.4
47.5°	2433.9	2384.7	2181.9	1979.1	1880.7
50°	2218.8	2175.8	1991.4	1788.5	1684.1
52.5°	2040.5	1972.9	1794.7	1591.9	1505.8
55°	1831.6	1776.3	1610.3	1419.8	1346.0
57.5°	1641.0	1585.7	1432.1	1253.8	1192.4
60°	1462.8	1382.9	1253.8	1100.2	1051.0
62.5°	1266.1	1204.7	1094.0	965.0	1026.4
65°	1087.9	1026.4	928.1	946.5	786.7
67.5°	891.2	860.5	774.4	688.4	663.8
70°	725.3	688.4	657.6	565.5	540.9
72.5°	577.7	540.9	497.8	448.7	430.2
75°	436.4	405.6	381.1	362.6	399.5
77.5°	301.2	288.9	270.4	252.0	245.8
80°	196.7	190.5	184.4	178.2	172.1
82.5°	116.8	116.8	116.8	116.8	116.8
85°	61.5	67.6	73.8	79.9	86.0
87.5°	36.9	36.9	43.0	49.2	55.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)