

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: P563886

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563886
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-35-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9340.0 lumens
Efficiency: N/A
Efficacy: 99.8 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

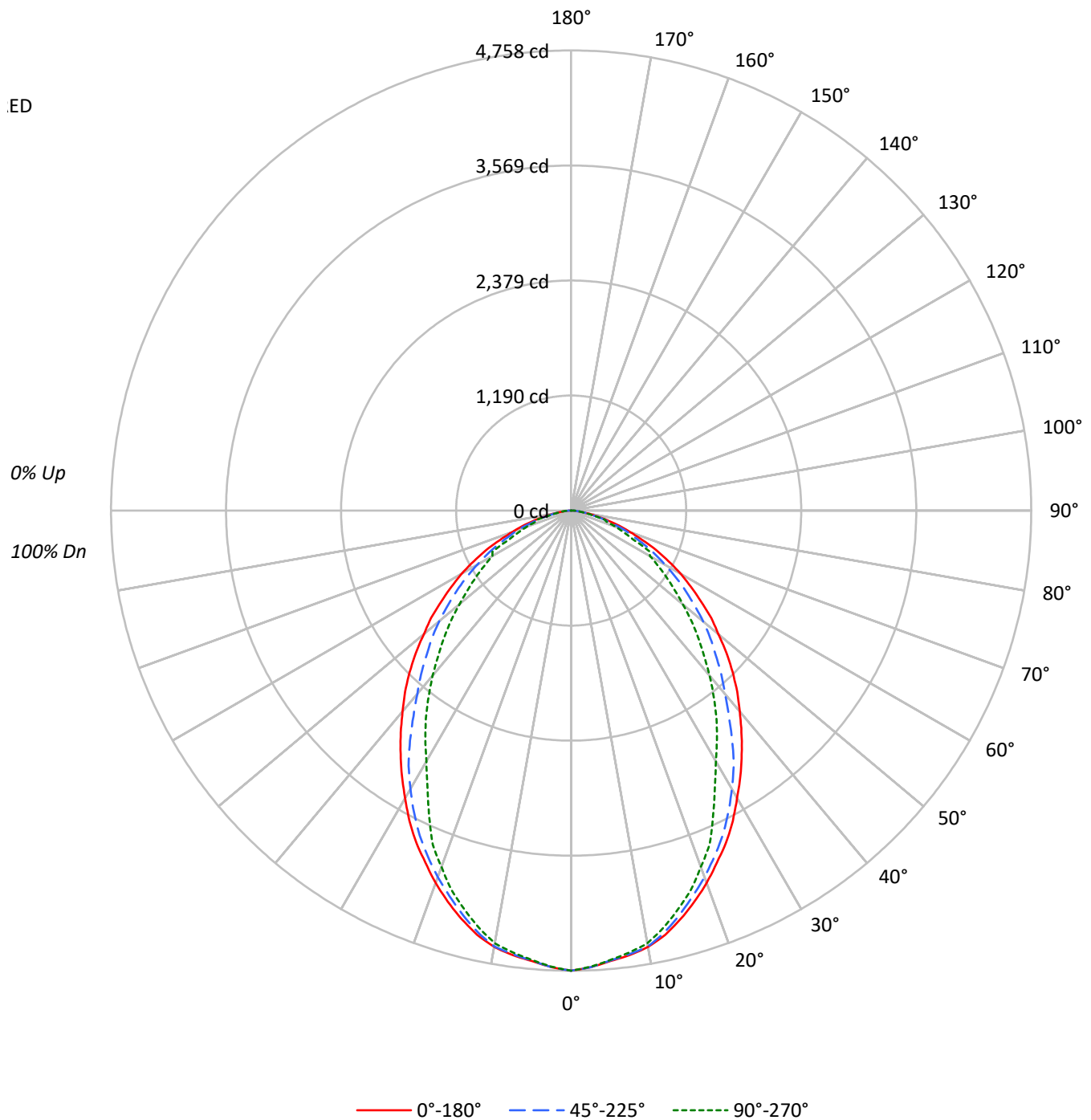
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563886

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-93-97-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563886

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-93-97-EDD-90

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	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				
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°	6401	6401	6401
5°	6314	6307	6300
10°	6260	6252	6207
15°	6091	6030	5945
20°	5867	5773	5615
25°	5626	5503	5161
30°	5332	5161	4649
35°	5050	4770	4300
40°	4763	4347	3913
45°	4490	4019	3538
50°	4156	3730	3155
55°	3845	3381	2826
60°	3522	3019	2531
65°	3099	2644	2241
70°	2553	2315	1904
75°	2030	1773	1858
80°	1364	1278	1193
85°	849	1019	1189

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4490 cd/sqm



TEST NUMBER: P563886

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-93-97-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	442.9	4.7
10°-20°	1215.4	13.0
20°-30°	1682.7	18.0
30°-40°	1794.2	19.2
40°-50°	1636.9	17.5
50°-60°	1282.4	13.7
60°-70°	835.7	8.9
70°-80°	370.3	4.0
80°-90°	79.5	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°	3341.0	35.8
0°-40°	5135.2	55.0
0°-60°	8054.5	86.2
0°-90°	9340.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9340.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4758	4758	4758	4758	4758	
5°	4675	4670	4670	4664	4664	444
15°	4373	4373	4329	4285	4268	1229
25°	3790	3768	3707	3575	3476	1740
35°	3075	3053	2904	2684	2618	1922
45°	2360	2310	2112	1936	1859	1818
55°	1639	1590	1441	1270	1204	1470
65°	974	918	830	847	704	959
75°	390	363	341	324	358	419
85°	55	60	66	72	77	76
90°	0	0	0	0	0	



TEST NUMBER: P563886

CATALOG NUMBER: FSR-24-4-LD4-4LO-35-UNV-93-97-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4757.7	4757.7	4757.7	4757.7	4757.7
2.5°	4724.7	4724.7	4724.7	4719.2	4719.2
5°	4675.2	4669.7	4669.7	4664.2	4664.2
7.5°	4636.7	4631.2	4625.7	4620.2	4609.2
10°	4581.7	4581.7	4576.2	4548.7	4543.2
12.5°	4493.7	4488.2	4466.2	4427.7	4416.7
15°	4372.7	4372.7	4328.7	4284.7	4268.2
17.5°	4240.7	4235.2	4180.2	4136.1	4114.1
20°	4097.6	4086.6	4031.6	3960.1	3921.6
22.5°	3938.1	3938.1	3872.1	3778.6	3740.1
25°	3789.6	3767.6	3707.1	3575.1	3476.1
27.5°	3619.1	3586.1	3520.1	3333.1	3217.6
30°	3432.1	3415.6	3322.1	3080.1	2992.1
32.5°	3256.1	3228.6	3129.6	2876.6	2805.1
35°	3074.6	3052.6	2904.1	2684.1	2618.1
37.5°	2893.1	2865.6	2678.6	2502.6	2420.1
40°	2711.6	2678.6	2475.1	2315.6	2227.6
42.5°	2541.1	2497.1	2299.1	2128.6	2029.6
45°	2359.6	2310.1	2112.1	1936.1	1859.1
47.5°	2178.1	2134.1	1952.6	1771.1	1683.1
50°	1985.6	1947.1	1782.1	1600.6	1507.1
52.5°	1826.1	1765.6	1606.1	1424.6	1347.5
55°	1639.1	1589.6	1441.1	1270.5	1204.5
57.5°	1468.6	1419.1	1281.5	1122.0	1067.0
60°	1309.0	1237.5	1122.0	984.5	940.5
62.5°	1133.0	1078.0	979.0	863.5	918.5
65°	973.5	918.5	830.5	847.0	704.0
67.5°	797.5	770.0	693.0	616.0	594.0
70°	649.0	616.0	588.5	506.0	484.0
72.5°	517.0	484.0	445.5	401.5	385.0
75°	390.5	363.0	341.0	324.5	357.5
77.5°	269.5	258.5	242.0	225.5	220.0
80°	176.0	170.5	165.0	159.5	154.0
82.5°	104.5	104.5	104.5	104.5	104.5
85°	55.0	60.5	66.0	71.5	77.0
87.5°	33.0	33.0	38.5	44.0	49.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)