

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: P562283

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562283
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-LD4-1LO-50-UNV-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

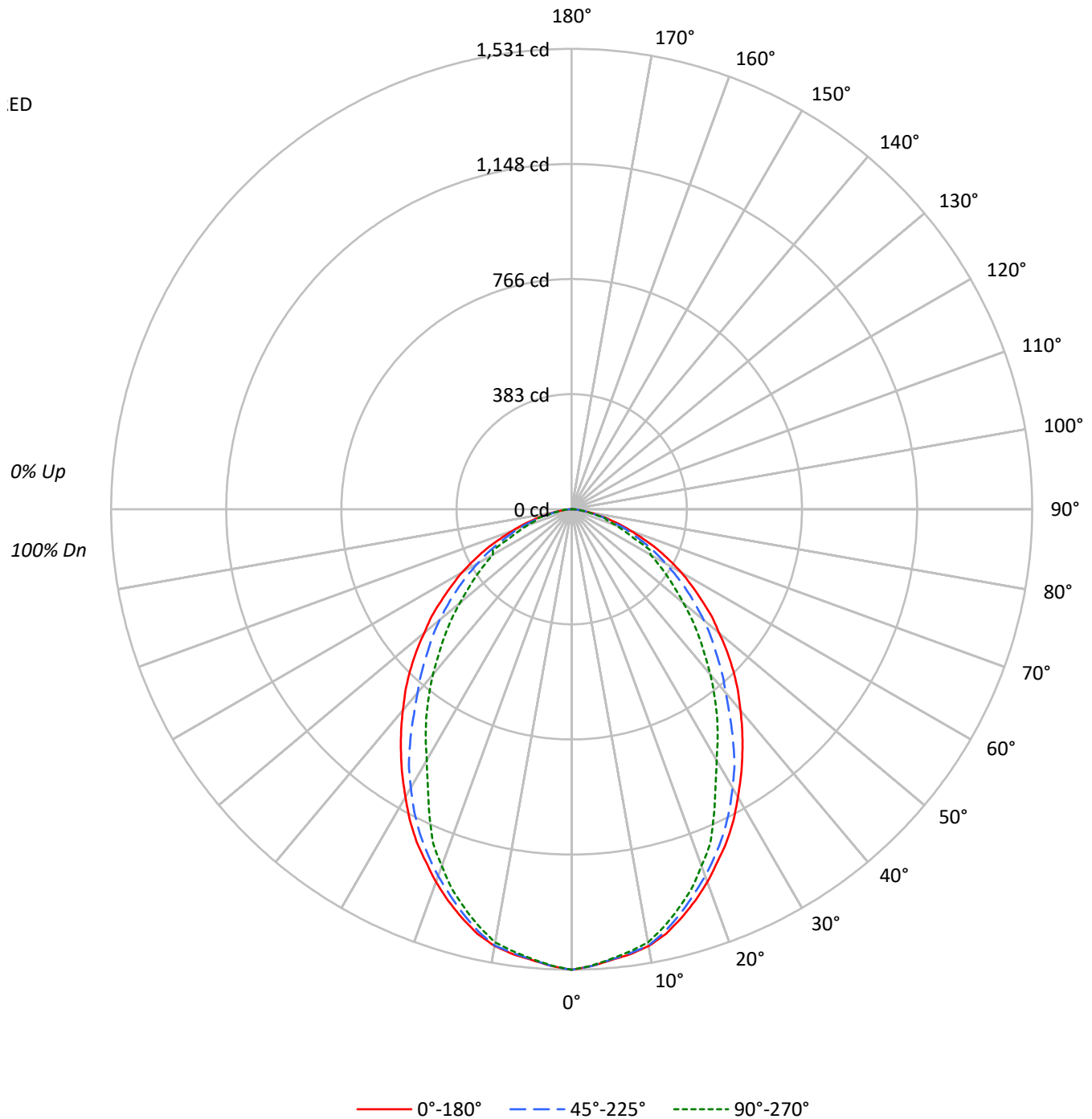
Lumens per Lamp: N/A
Luminaire Lumens: 3006.0 lumens
Efficiency: N/A
Efficacy: 128.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	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°	2060	2060	2060
5°	2032	2030	2027
10°	2015	2012	1998
15°	1960	1941	1913
20°	1888	1858	1807
25°	1811	1771	1661
30°	1716	1661	1496
35°	1625	1535	1384
40°	1533	1399	1259
45°	1445	1294	1138
50°	1338	1200	1015
55°	1237	1088	909
60°	1134	972	815
65°	997	851	721
70°	822	745	613
75°	653	571	598
80°	439	411	384
85°	273	327	383

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1445 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.5	4.7
10°-20°	391.2	13.0
20°-30°	541.6	18.0
30°-40°	577.5	19.2
40°-50°	526.8	17.5
50°-60°	412.7	13.7
60°-70°	269.0	8.9
70°-80°	119.2	4.0
80°-90°	25.6	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°	1075.3	35.8
0°-40°	1652.7	55.0
0°-60°	2592.3	86.2
0°-90°	3006.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3006.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1531	1531	1531	1531	1531	
5°	1505	1503	1503	1501	1501	143
15°	1407	1407	1393	1379	1374	396
25°	1220	1213	1193	1151	1119	560
35°	990	982	935	864	843	619
45°	759	744	680	623	598	585
55°	528	512	464	409	388	473
65°	313	296	267	273	227	309
75°	126	117	110	104	115	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1531.2	1531.2	1531.2	1531.2	1531.2
2.5°	1520.6	1520.6	1520.6	1518.8	1518.8
5°	1504.7	1502.9	1502.9	1501.1	1501.1
7.5°	1492.3	1490.5	1488.7	1487.0	1483.4
10°	1474.6	1474.6	1472.8	1463.9	1462.2
12.5°	1446.2	1444.5	1437.4	1425.0	1421.5
15°	1407.3	1407.3	1393.1	1379.0	1373.7
17.5°	1364.8	1363.0	1345.3	1331.2	1324.1
20°	1318.8	1315.3	1297.6	1274.5	1262.1
22.5°	1267.5	1267.5	1246.2	1216.1	1203.7
25°	1219.7	1212.6	1193.1	1150.6	1118.8
27.5°	1164.8	1154.2	1132.9	1072.7	1035.6
30°	1104.6	1099.3	1069.2	991.3	963.0
32.5°	1048.0	1039.1	1007.2	925.8	902.8
35°	989.5	982.5	934.7	863.9	842.6
37.5°	931.1	922.3	862.1	805.4	778.9
40°	872.7	862.1	796.6	745.3	716.9
42.5°	817.8	803.7	739.9	685.1	653.2
45°	759.4	743.5	679.8	623.1	598.3
47.5°	701.0	686.8	628.4	570.0	541.7
50°	639.0	626.6	573.5	515.1	485.0
52.5°	587.7	568.2	516.9	458.5	433.7
55°	527.5	511.6	463.8	408.9	387.7
57.5°	472.6	456.7	412.5	361.1	343.4
60°	421.3	398.3	361.1	316.9	302.7
62.5°	364.7	347.0	315.1	277.9	295.6
65°	313.3	295.6	267.3	272.6	226.6
67.5°	256.7	247.8	223.0	198.3	191.2
70°	208.9	198.3	189.4	162.9	155.8
72.5°	166.4	155.8	143.4	129.2	123.9
75°	125.7	116.8	109.8	104.4	115.1
77.5°	86.7	83.2	77.9	72.6	70.8
80°	56.6	54.9	53.1	51.3	49.6
82.5°	33.6	33.6	33.6	33.6	33.6
85°	17.7	19.5	21.2	23.0	24.8
87.5°	10.6	10.6	12.4	14.2	15.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)