

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: P562285

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562285
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-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

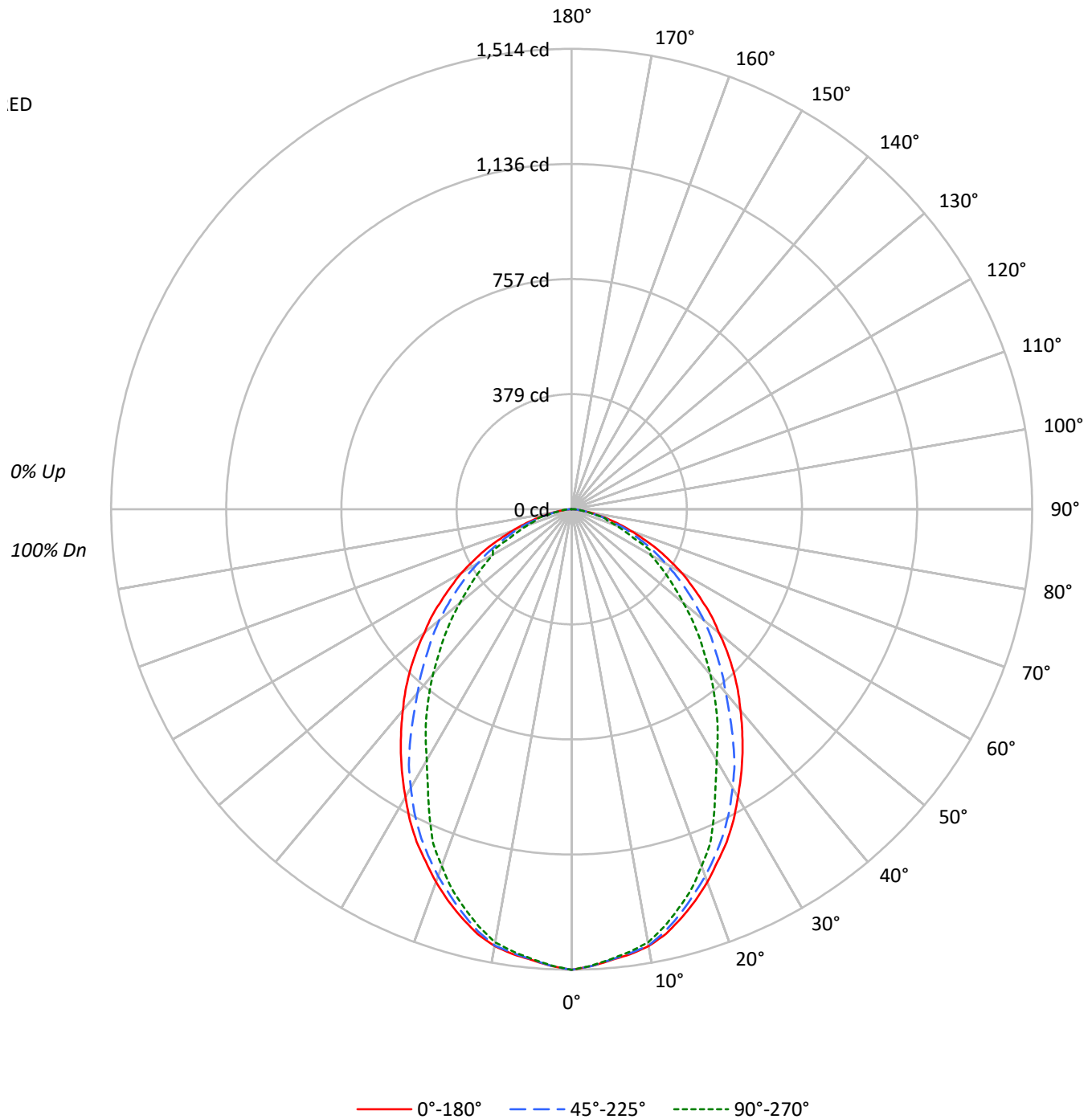
Lumens per Lamp: N/A
Luminaire Lumens: 2973.0 lumens
Efficiency: N/A
Efficacy: 127.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	2038	2038	2038
5°	2010	2008	2005
10°	1993	1990	1976
15°	1939	1919	1892
20°	1868	1837	1787
25°	1791	1752	1643
30°	1697	1643	1480
35°	1608	1518	1369
40°	1516	1384	1245
45°	1429	1279	1126
50°	1323	1187	1004
55°	1224	1076	899
60°	1121	961	806
65°	987	842	713
70°	813	737	606
75°	646	564	592
80°	434	407	380
85°	270	324	378

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1429 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.0	4.7
10°-20°	386.9	13.0
20°-30°	535.6	18.0
30°-40°	571.1	19.2
40°-50°	521.0	17.5
50°-60°	408.2	13.7
60°-70°	266.0	8.9
70°-80°	117.9	4.0
80°-90°	25.3	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°	1063.5	35.8
0°-40°	1634.6	55.0
0°-60°	2563.8	86.2
0°-90°	2973.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2973.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1514	1514	1514	1514	1514	
5°	1488	1486	1486	1485	1485	141
15°	1392	1392	1378	1364	1359	391
25°	1206	1199	1180	1138	1106	554
35°	979	972	924	854	833	612
45°	751	735	672	616	592	579
55°	522	506	459	404	383	468
65°	310	292	264	270	224	305
75°	124	116	108	103	114	133
85°	18	19	21	23	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1514.4	1514.4	1514.4	1514.4	1514.4
2.5°	1503.9	1503.9	1503.9	1502.2	1502.2
5°	1488.1	1486.4	1486.4	1484.6	1484.6
7.5°	1475.9	1474.1	1472.4	1470.6	1467.1
10°	1458.4	1458.4	1456.6	1447.9	1446.1
12.5°	1430.4	1428.6	1421.6	1409.4	1405.9
15°	1391.9	1391.9	1377.8	1363.8	1358.6
17.5°	1349.8	1348.1	1330.6	1316.6	1309.6
20°	1304.3	1300.8	1283.3	1260.5	1248.3
22.5°	1253.5	1253.5	1232.5	1202.8	1190.5
25°	1206.3	1199.3	1180.0	1138.0	1106.5
27.5°	1152.0	1141.5	1120.5	1061.0	1024.2
30°	1092.5	1087.2	1057.5	980.4	952.4
32.5°	1036.4	1027.7	996.2	915.6	892.9
35°	978.7	971.7	924.4	854.4	833.4
37.5°	920.9	912.1	852.6	796.6	770.3
40°	863.1	852.6	787.8	737.1	709.1
42.5°	808.9	794.8	731.8	677.5	646.0
45°	751.1	735.3	672.3	616.3	591.8
47.5°	693.3	679.3	621.5	563.7	535.7
50°	632.0	619.8	567.2	509.5	479.7
52.5°	581.3	562.0	511.2	453.4	428.9
55°	521.7	506.0	458.7	404.4	383.4
57.5°	467.5	451.7	407.9	357.2	339.6
60°	416.7	393.9	357.2	313.4	299.4
62.5°	360.7	343.1	311.6	274.9	292.4
65°	309.9	292.4	264.4	269.6	224.1
67.5°	253.9	245.1	220.6	196.1	189.1
70°	206.6	196.1	187.3	161.1	154.1
72.5°	164.6	154.1	141.8	127.8	122.6
75°	124.3	115.6	108.5	103.3	113.8
77.5°	85.8	82.3	77.0	71.8	70.0
80°	56.0	54.3	52.5	50.8	49.0
82.5°	33.3	33.3	33.3	33.3	33.3
85°	17.5	19.3	21.0	22.8	24.5
87.5°	10.5	10.5	12.3	14.0	15.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)