

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: P560842

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560842
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-LD4-1HI-40-UNV-81-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3292.0 lumens
Efficiency: N/A
Efficacy: 76.2 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

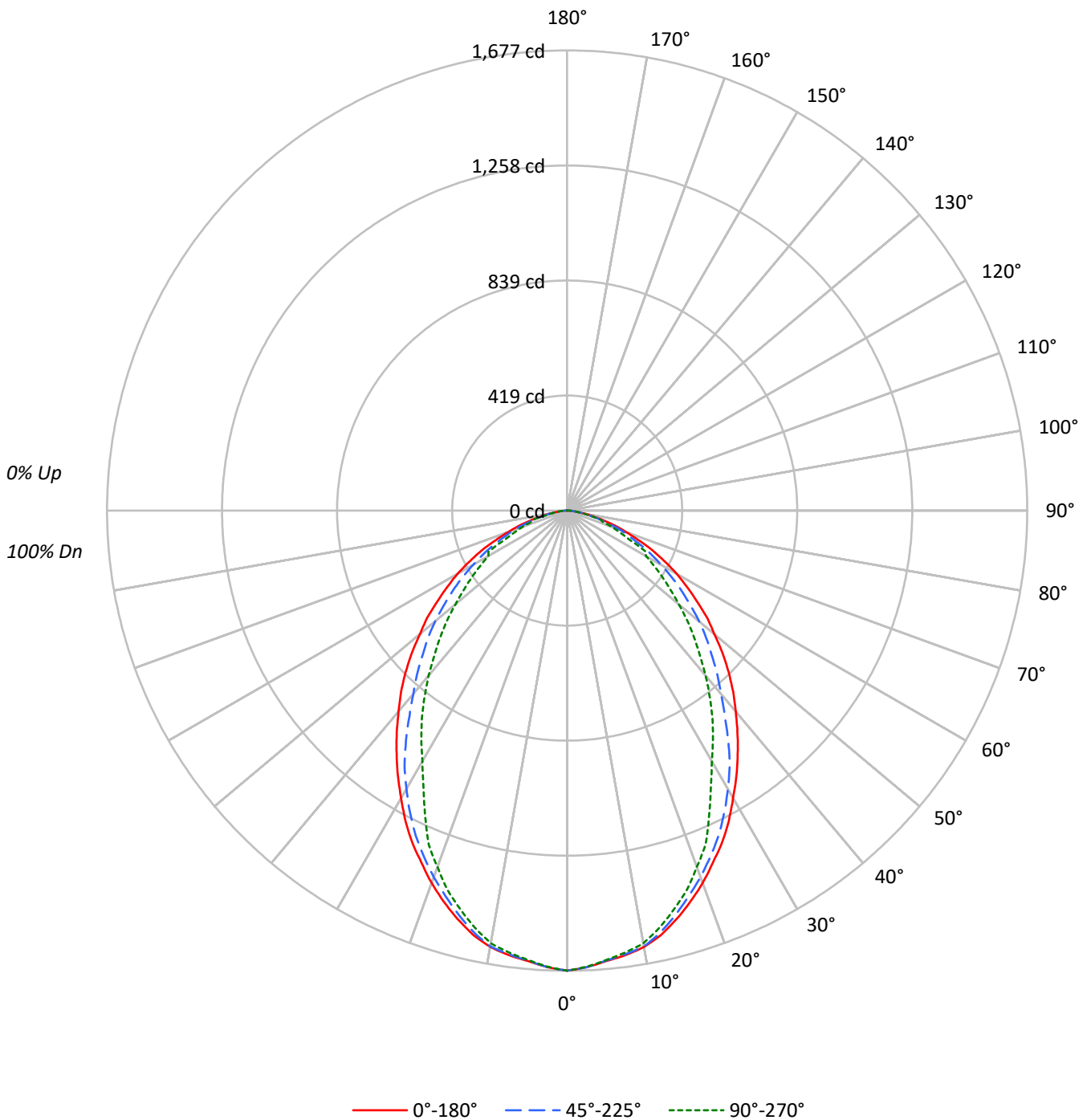
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4513	4513	4513
5°	4451	4446	4441
10°	4413	4407	4376
15°	4294	4250	4191
20°	4136	4069	3958
25°	3966	3880	3638
30°	3759	3638	3277
35°	3560	3363	3031
40°	3357	3065	2758
45°	3165	2833	2494
50°	2930	2629	2224
55°	2710	2383	1992
60°	2483	2129	1784
65°	2185	1864	1580
70°	1800	1632	1342
75°	1431	1250	1310
80°	961	902	841
85°	599	719	837

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3165 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.1	4.7
10°-20°	428.4	13.0
20°-30°	593.1	18.0
30°-40°	632.4	19.2
40°-50°	576.9	17.5
50°-60°	452.0	13.7
60°-70°	294.6	8.9
70°-80°	130.5	4.0
80°-90°	28.0	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°	1177.6	35.8
0°-40°	1810.0	55.0
0°-60°	2838.9	86.2
0°-90°	3292.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3292.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1677	1677	1677	1677	1677	
5°	1648	1646	1646	1644	1644	156
15°	1541	1541	1526	1510	1504	433
25°	1336	1328	1307	1260	1225	613
35°	1084	1076	1024	946	923	678
45°	832	814	744	682	655	641
55°	578	560	508	448	425	518
65°	343	324	293	298	248	338
75°	138	128	120	114	126	148
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1676.9	1676.9	1676.9	1676.9	1676.9
2.5°	1665.3	1665.3	1665.3	1663.3	1663.3
5°	1647.8	1645.9	1645.9	1643.9	1643.9
7.5°	1634.3	1632.3	1630.4	1628.4	1624.6
10°	1614.9	1614.9	1612.9	1603.2	1601.3
12.5°	1583.8	1581.9	1574.2	1560.6	1556.7
15°	1541.2	1541.2	1525.7	1510.2	1504.4
17.5°	1494.7	1492.7	1473.3	1457.8	1450.1
20°	1444.3	1440.4	1421.0	1395.8	1382.2
22.5°	1388.0	1388.0	1364.8	1331.8	1318.3
25°	1335.7	1328.0	1306.6	1260.1	1225.2
27.5°	1275.6	1264.0	1240.7	1174.8	1134.1
30°	1209.7	1203.9	1170.9	1085.6	1054.6
32.5°	1147.7	1138.0	1103.1	1013.9	988.7
35°	1083.7	1075.9	1023.6	946.0	922.8
37.5°	1019.7	1010.0	944.1	882.1	853.0
40°	955.7	944.1	872.4	816.2	785.1
42.5°	895.6	880.1	810.3	750.2	715.3
45°	831.7	814.2	744.4	682.4	655.3
47.5°	767.7	752.2	688.2	624.2	593.2
50°	699.8	686.3	628.1	564.1	531.2
52.5°	643.6	622.3	566.1	502.1	475.0
55°	577.7	560.3	507.9	447.8	424.6
57.5°	517.6	500.2	451.7	395.5	376.1
60°	461.4	436.2	395.5	347.0	331.5
62.5°	399.4	380.0	345.1	304.4	323.7
65°	343.1	323.7	292.7	298.5	248.1
67.5°	281.1	271.4	244.3	217.1	209.4
70°	228.8	217.1	207.4	178.4	170.6
72.5°	182.2	170.6	157.0	141.5	135.7
75°	137.6	127.9	120.2	114.4	126.0
77.5°	95.0	91.1	85.3	79.5	77.5
80°	62.0	60.1	58.2	56.2	54.3
82.5°	36.8	36.8	36.8	36.8	36.8
85°	19.4	21.3	23.3	25.2	27.1
87.5°	11.6	11.6	13.6	15.5	17.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)