

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: P561227

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561227
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-LD4-1STD-40-UNV-81-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3194.0 lumens
Efficiency: N/A
Efficacy: 95.9 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

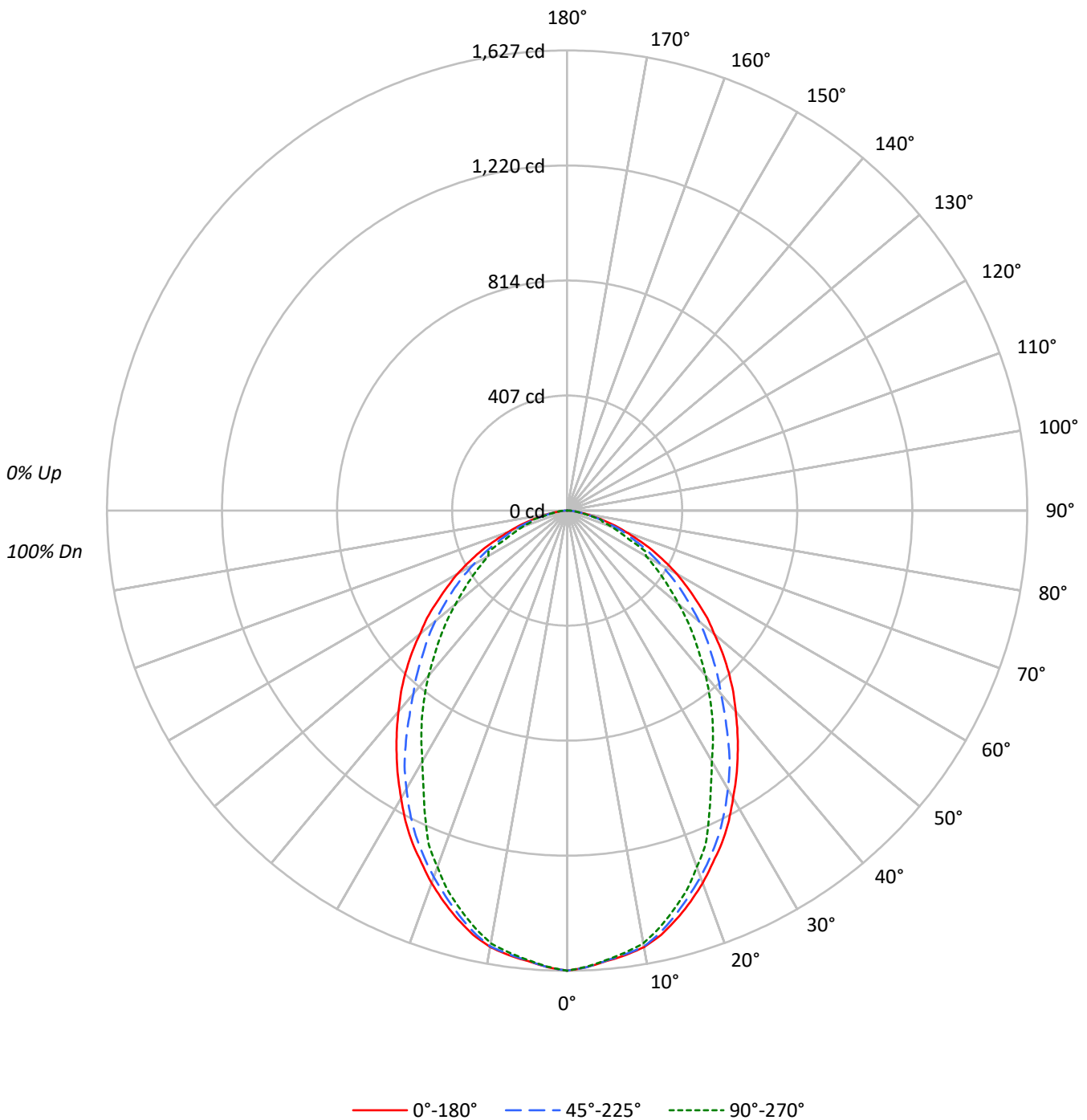
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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																												
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°	4378	4378	4378
5°	4319	4314	4309
10°	4281	4276	4245
15°	4166	4124	4066
20°	4013	3948	3840
25°	3848	3764	3529
30°	3647	3530	3179
35°	3454	3262	2941
40°	3257	2973	2676
45°	3071	2749	2419
50°	2843	2551	2158
55°	2630	2312	1932
60°	2410	2065	1731
65°	2120	1808	1533
70°	1746	1584	1302
75°	1388	1212	1272
80°	933	874	817
85°	580	698	812

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3071 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.4	4.7
10°-20°	415.6	13.0
20°-30°	575.4	18.0
30°-40°	613.6	19.2
40°-50°	559.8	17.5
50°-60°	438.5	13.7
60°-70°	285.8	8.9
70°-80°	126.6	4.0
80°-90°	27.2	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°	1142.5	35.8
0°-40°	1756.1	55.0
0°-60°	2754.4	86.2
0°-90°	3194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3194.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1627	1627	1627	1627	1627	
5°	1599	1597	1597	1595	1595	152
15°	1495	1495	1480	1465	1460	420
25°	1296	1288	1268	1223	1189	595
35°	1051	1044	993	918	895	657
45°	807	790	722	662	636	622
55°	560	544	493	434	412	503
65°	333	314	284	290	241	328
75°	134	124	117	111	122	143
85°	19	21	23	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1627.0	1627.0	1627.0	1627.0	1627.0
2.5°	1615.7	1615.7	1615.7	1613.8	1613.8
5°	1598.8	1596.9	1596.9	1595.0	1595.0
7.5°	1585.6	1583.7	1581.8	1580.0	1576.2
10°	1566.8	1566.8	1564.9	1555.5	1553.6
12.5°	1536.7	1534.8	1527.3	1514.1	1510.4
15°	1495.3	1495.3	1480.3	1465.2	1459.6
17.5°	1450.2	1448.3	1429.5	1414.4	1406.9
20°	1401.3	1397.5	1378.7	1354.3	1341.1
22.5°	1346.7	1346.7	1324.2	1292.2	1279.0
25°	1295.9	1288.4	1267.7	1222.6	1188.7
27.5°	1237.6	1226.3	1203.8	1139.8	1100.3
30°	1173.7	1168.0	1136.1	1053.3	1023.2
32.5°	1113.5	1104.1	1070.2	983.7	959.3
35°	1051.4	1043.9	993.1	917.9	895.3
37.5°	989.4	980.0	916.0	855.8	827.6
40°	927.3	916.0	846.4	791.9	761.8
42.5°	869.0	853.9	786.2	727.9	694.1
45°	806.9	790.0	722.3	662.1	635.7
47.5°	744.8	729.8	667.7	605.7	575.6
50°	679.0	665.8	609.4	547.3	515.4
52.5°	624.5	603.8	549.2	487.2	460.8
55°	560.5	543.6	492.8	434.5	411.9
57.5°	502.2	485.3	438.3	383.7	364.9
60°	447.7	423.2	383.7	336.7	321.6
62.5°	387.5	368.7	334.8	295.3	314.1
65°	332.9	314.1	284.0	289.7	240.8
67.5°	272.7	263.3	237.0	210.7	203.1
70°	221.9	210.7	201.3	173.0	165.5
72.5°	176.8	165.5	152.4	137.3	131.7
75°	133.5	124.1	116.6	111.0	122.3
77.5°	92.2	88.4	82.8	77.1	75.2
80°	60.2	58.3	56.4	54.5	52.7
82.5°	35.7	35.7	35.7	35.7	35.7
85°	18.8	20.7	22.6	24.5	26.3
87.5°	11.3	11.3	13.2	15.0	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)