

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: P560922

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560922
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-50-UNV-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3394.0 lumens
Efficiency: N/A
Efficacy: 78.6 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

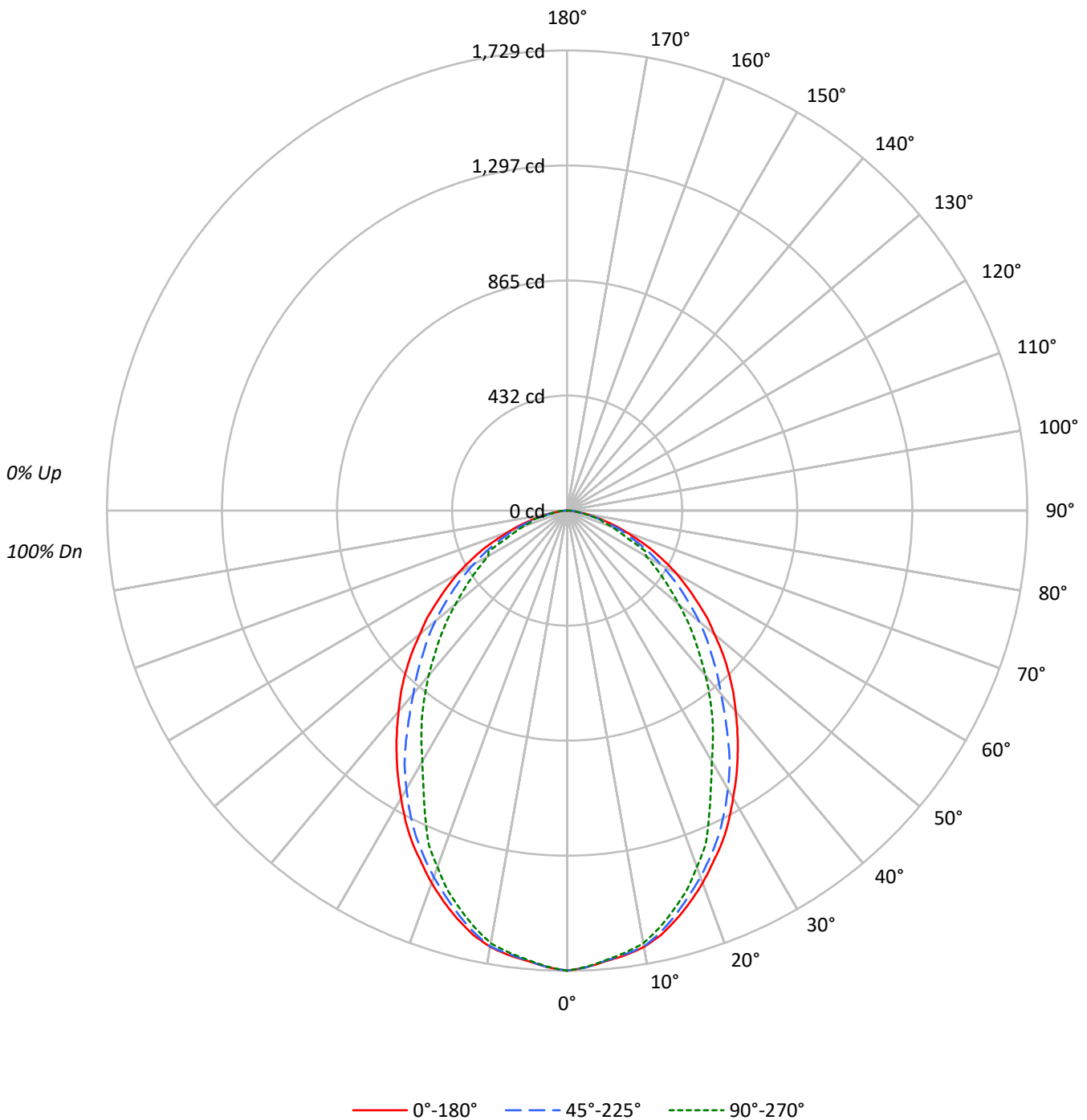
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4652	4652	4652
5°	4589	4584	4578
10°	4549	4544	4511
15°	4427	4382	4321
20°	4264	4195	4081
25°	4089	4000	3751
30°	3875	3751	3379
35°	3670	3467	3125
40°	3461	3159	2844
45°	3263	2921	2571
50°	3021	2711	2292
55°	2794	2457	2054
60°	2560	2194	1840
65°	2253	1922	1629
70°	1855	1683	1384
75°	1475	1288	1351
80°	992	930	868
85°	618	741	865

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3263 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.9	4.7
10°-20°	441.7	13.0
20°-30°	611.5	18.0
30°-40°	652.0	19.2
40°-50°	594.8	17.5
50°-60°	466.0	13.7
60°-70°	303.7	8.9
70°-80°	134.5	4.0
80°-90°	28.9	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°	1214.1	35.8
0°-40°	1866.1	55.0
0°-60°	2926.9	86.2
0°-90°	3394.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3394.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1729	1729	1729	1729	1729	
5°	1699	1697	1697	1695	1695	161
15°	1589	1589	1573	1557	1551	447
25°	1377	1369	1347	1299	1263	632
35°	1117	1109	1055	975	951	698
45°	857	839	768	704	676	660
55°	596	578	524	462	438	534
65°	354	334	302	308	256	349
75°	142	132	124	118	130	152
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1728.9	1728.9	1728.9	1728.9	1728.9
2.5°	1716.9	1716.9	1716.9	1714.9	1714.9
5°	1698.9	1696.9	1696.9	1694.9	1694.9
7.5°	1684.9	1682.9	1680.9	1678.9	1674.9
10°	1664.9	1664.9	1662.9	1652.9	1650.9
12.5°	1632.9	1630.9	1622.9	1608.9	1604.9
15°	1589.0	1589.0	1573.0	1557.0	1551.0
17.5°	1541.0	1539.0	1519.0	1503.0	1495.0
20°	1489.0	1485.0	1465.0	1439.0	1425.1
22.5°	1431.1	1431.1	1407.1	1373.1	1359.1
25°	1377.1	1369.1	1347.1	1299.1	1263.2
27.5°	1315.1	1303.1	1279.2	1211.2	1169.2
30°	1247.2	1241.2	1207.2	1119.3	1087.3
32.5°	1183.2	1173.2	1137.2	1045.3	1019.3
35°	1117.3	1109.3	1055.3	975.4	951.4
37.5°	1051.3	1041.3	973.4	909.4	879.4
40°	985.3	973.4	899.4	841.4	809.5
42.5°	923.4	907.4	835.4	773.5	737.5
45°	857.4	839.4	767.5	703.5	675.6
47.5°	791.5	775.5	709.5	643.6	611.6
50°	721.5	707.5	647.6	581.6	547.6
52.5°	663.6	641.6	583.6	517.7	489.7
55°	595.6	577.6	523.7	461.7	437.7
57.5°	533.6	515.7	465.7	407.7	387.7
60°	475.7	449.7	407.7	357.8	341.8
62.5°	411.7	391.7	355.8	313.8	333.8
65°	353.8	333.8	301.8	307.8	255.8
67.5°	289.8	279.8	251.8	223.9	215.9
70°	235.8	223.9	213.9	183.9	175.9
72.5°	187.9	175.9	161.9	145.9	139.9
75°	141.9	131.9	123.9	117.9	129.9
77.5°	97.9	93.9	87.9	81.9	79.9
80°	64.0	62.0	60.0	58.0	56.0
82.5°	38.0	38.0	38.0	38.0	38.0
85°	20.0	22.0	24.0	26.0	28.0
87.5°	12.0	12.0	14.0	16.0	18.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)