

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: P560796

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560796
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-35-UNV-82-96-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3142.0 lumens
Efficiency: N/A
Efficacy: 72.7 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

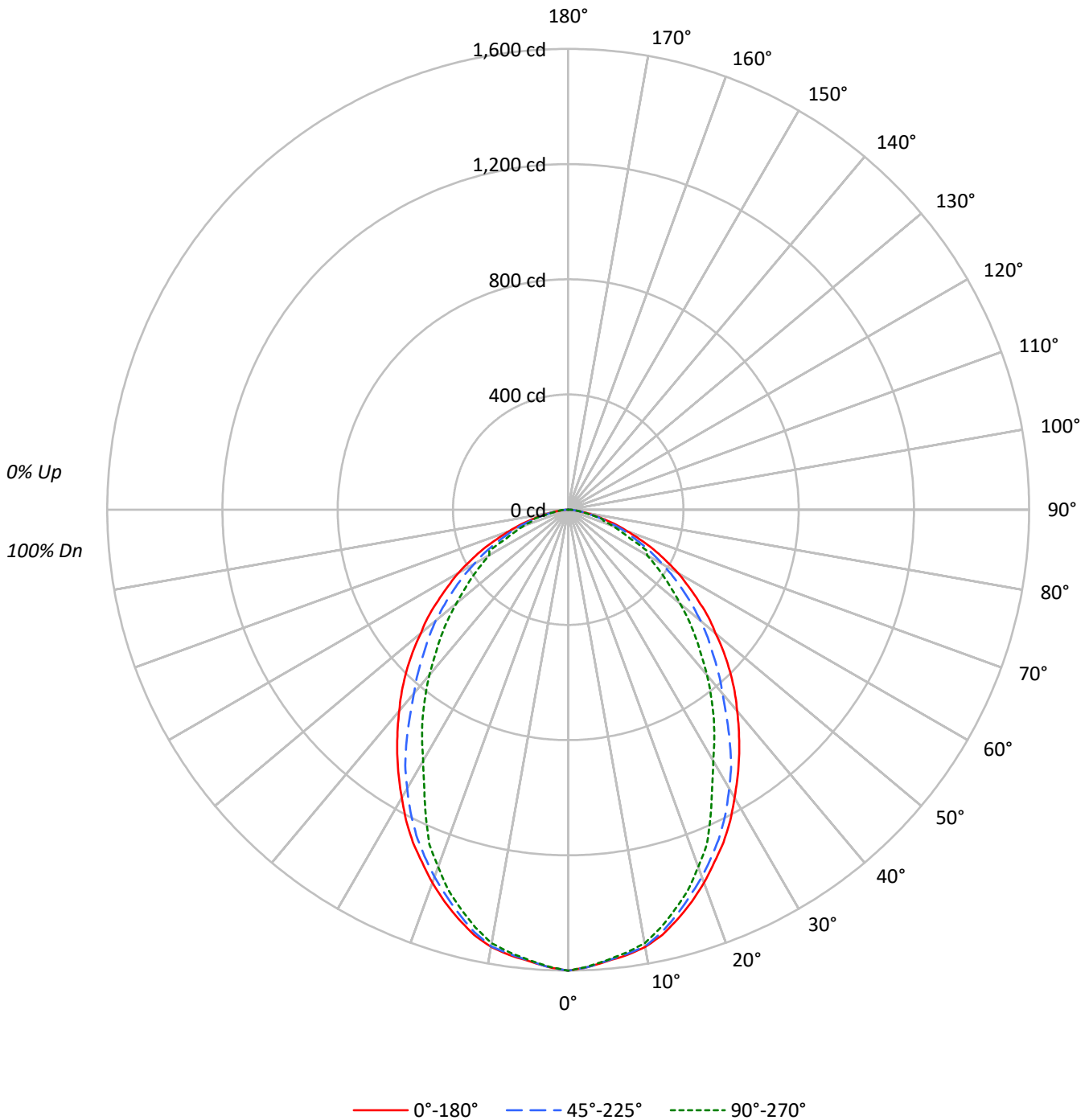
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4307	4307	4307
5°	4248	4243	4238
10°	4212	4206	4176
15°	4098	4057	4000
20°	3948	3884	3778
25°	3785	3703	3472
30°	3588	3473	3128
35°	3398	3209	2893
40°	3204	2925	2633
45°	3021	2704	2380
50°	2797	2510	2123
55°	2587	2274	1901
60°	2370	2032	1703
65°	2085	1779	1508
70°	1718	1558	1281
75°	1366	1193	1251
80°	917	860	803
85°	571	685	800

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3021 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.0	4.7
10°-20°	408.9	13.0
20°-30°	566.1	18.0
30°-40°	603.6	19.2
40°-50°	550.6	17.5
50°-60°	431.4	13.7
60°-70°	281.1	8.9
70°-80°	124.6	4.0
80°-90°	26.8	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°	1123.9	35.8
0°-40°	1727.5	55.0
0°-60°	2709.5	86.2
0°-90°	3142.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3142.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1600	1600	1600	1600	1600	
5°	1573	1571	1571	1569	1569	149
15°	1471	1471	1456	1441	1436	414
25°	1275	1267	1247	1203	1169	585
35°	1034	1027	977	903	881	647
45°	794	777	710	651	625	611
55°	551	535	485	427	405	495
65°	328	309	279	285	237	323
75°	131	122	115	109	120	141
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1600.5	1600.5	1600.5	1600.5	1600.5
2.5°	1589.4	1589.4	1589.4	1587.5	1587.5
5°	1572.7	1570.9	1570.9	1569.0	1569.0
7.5°	1559.8	1557.9	1556.1	1554.2	1550.5
10°	1541.3	1541.3	1539.4	1530.2	1528.3
12.5°	1511.7	1509.8	1502.4	1489.5	1485.8
15°	1471.0	1471.0	1456.2	1441.4	1435.8
17.5°	1426.6	1424.7	1406.2	1391.4	1384.0
20°	1378.5	1374.8	1356.3	1332.2	1319.3
22.5°	1324.8	1324.8	1302.6	1271.1	1258.2
25°	1274.8	1267.4	1247.1	1202.7	1169.4
27.5°	1217.5	1206.4	1184.2	1121.3	1082.4
30°	1154.6	1149.0	1117.6	1036.2	1006.6
32.5°	1095.4	1086.1	1052.8	967.7	943.6
35°	1034.3	1026.9	976.9	902.9	880.7
37.5°	973.2	964.0	901.1	841.9	814.1
40°	912.2	901.1	832.6	779.0	749.4
42.5°	854.8	840.0	773.4	716.1	682.8
45°	793.8	777.1	710.5	651.3	625.4
47.5°	732.7	717.9	656.8	595.8	566.2
50°	668.0	655.0	599.5	538.4	507.0
52.5°	614.3	593.9	540.3	479.2	453.3
55°	551.4	534.7	484.8	427.4	405.2
57.5°	494.0	477.4	431.1	377.5	359.0
60°	440.4	416.3	377.5	331.2	316.4
62.5°	381.2	362.7	329.3	290.5	309.0
65°	327.5	309.0	279.4	284.9	236.8
67.5°	268.3	259.0	233.1	207.2	199.8
70°	218.3	207.2	198.0	170.2	162.8
72.5°	173.9	162.8	149.9	135.1	129.5
75°	131.4	122.1	114.7	109.2	120.3
77.5°	90.7	87.0	81.4	75.9	74.0
80°	59.2	57.4	55.5	53.7	51.8
82.5°	35.2	35.2	35.2	35.2	35.2
85°	18.5	20.4	22.2	24.1	25.9
87.5°	11.1	11.1	13.0	14.8	16.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)