

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: P561554

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561554
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-LD4-2LO-35-UNV-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3783.0 lumens
Efficiency: N/A
Efficacy: 80.8 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

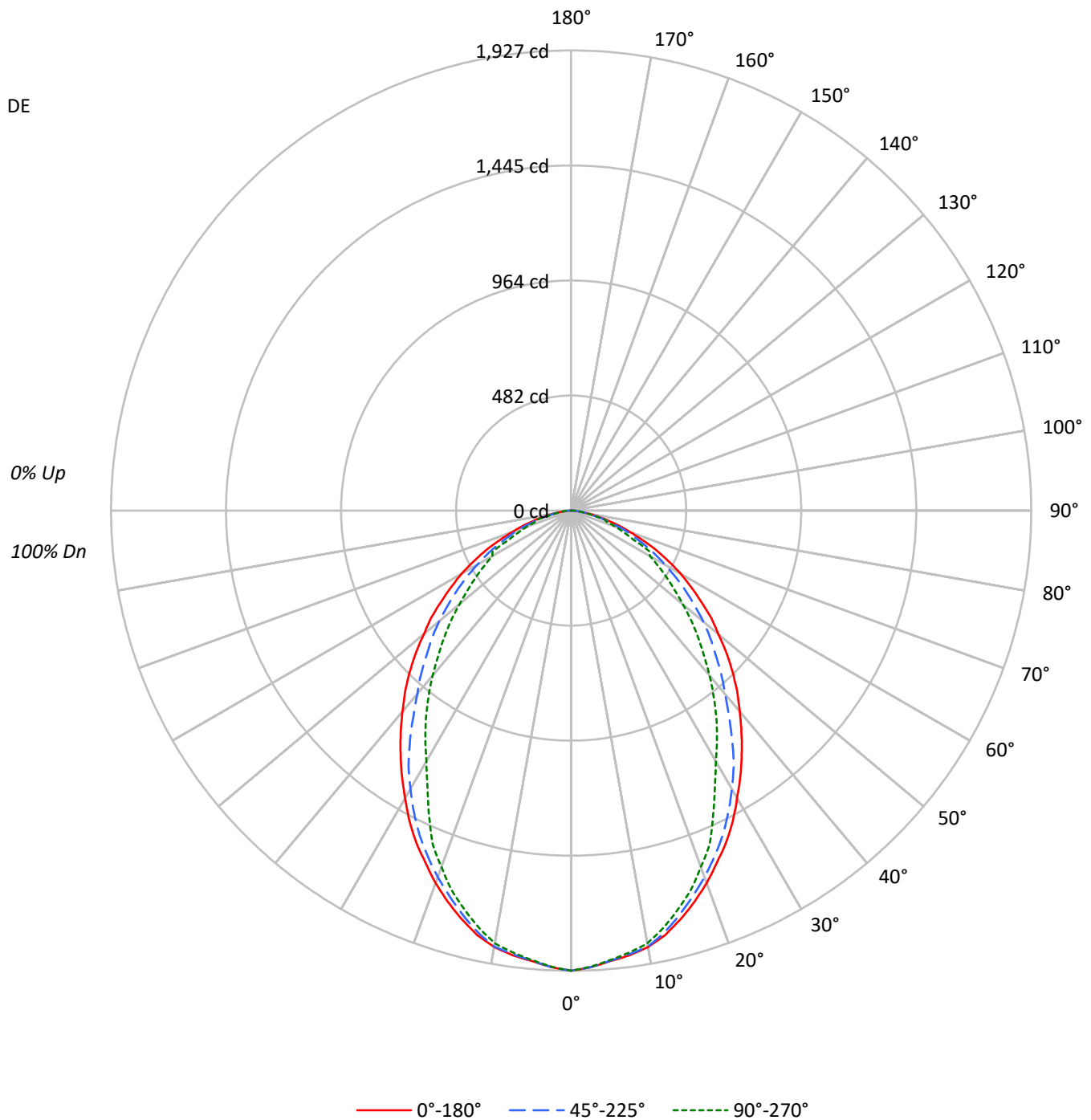
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5186	5186	5186
5°	5115	5109	5103
10°	5071	5065	5028
15°	4934	4884	4816
20°	4753	4676	4549
25°	4557	4458	4180
30°	4319	4181	3766
35°	4091	3864	3483
40°	3858	3522	3169
45°	3637	3256	2866
50°	3367	3022	2555
55°	3115	2738	2289
60°	2854	2446	2050
65°	2511	2142	1816
70°	2068	1876	1542
75°	1645	1436	1506
80°	1105	1035	967
85°	689	824	963

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3637 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.4	4.7
10°-20°	492.3	13.0
20°-30°	681.5	18.0
30°-40°	726.7	19.2
40°-50°	663.0	17.5
50°-60°	519.4	13.7
60°-70°	338.5	8.9
70°-80°	150.0	4.0
80°-90°	32.2	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°	1353.2	35.8
0°-40°	2079.9	55.0
0°-60°	3262.3	86.2
0°-90°	3783.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3783.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1927	1927	1927	1927	1927	
5°	1894	1891	1891	1889	1889	180
15°	1771	1771	1753	1735	1729	498
25°	1535	1526	1502	1448	1408	705
35°	1245	1236	1176	1087	1060	779
45°	956	936	856	784	753	736
55°	664	644	584	515	488	595
65°	394	372	336	343	285	389
75°	158	147	138	131	145	170
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1927.0	1927.0	1927.0	1927.0	1927.0
2.5°	1913.6	1913.6	1913.6	1911.4	1911.4
5°	1893.6	1891.4	1891.4	1889.1	1889.1
7.5°	1878.0	1875.8	1873.5	1871.3	1866.9
10°	1855.7	1855.7	1853.5	1842.4	1840.1
12.5°	1820.1	1817.8	1808.9	1793.3	1788.9
15°	1771.1	1771.1	1753.2	1735.4	1728.7
17.5°	1717.6	1715.4	1693.1	1675.3	1666.4
20°	1659.7	1655.2	1632.9	1604.0	1588.4
22.5°	1595.1	1595.1	1568.3	1530.5	1514.9
25°	1534.9	1526.0	1501.5	1448.0	1407.9
27.5°	1465.9	1452.5	1425.8	1350.0	1303.2
30°	1390.1	1383.4	1345.6	1247.5	1211.9
32.5°	1318.8	1307.7	1267.6	1165.1	1136.2
35°	1245.3	1236.4	1176.3	1087.1	1060.4
37.5°	1171.8	1160.7	1084.9	1013.6	980.2
40°	1098.3	1084.9	1002.5	937.9	902.2
42.5°	1029.2	1011.4	931.2	862.1	822.0
45°	955.7	935.7	855.5	784.2	753.0
47.5°	882.2	864.4	790.9	717.3	681.7
50°	804.2	788.6	721.8	648.3	610.4
52.5°	739.6	715.1	650.5	577.0	545.8
55°	663.9	643.8	583.7	514.6	487.9
57.5°	594.8	574.8	519.1	454.5	432.2
60°	530.2	501.2	454.5	398.8	380.9
62.5°	458.9	436.6	396.5	349.8	372.0
65°	394.3	372.0	336.4	343.1	285.2
67.5°	323.0	311.9	280.7	249.5	240.6
70°	262.9	249.5	238.4	205.0	196.0
72.5°	209.4	196.0	180.4	162.6	155.9
75°	158.2	147.0	138.1	131.4	144.8
77.5°	109.2	104.7	98.0	91.3	89.1
80°	71.3	69.1	66.8	64.6	62.4
82.5°	42.3	42.3	42.3	42.3	42.3
85°	22.3	24.5	26.7	29.0	31.2
87.5°	13.4	13.4	15.6	17.8	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)