

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: P562321

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562321
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-24-4-LD4-1STD-35-UNV-82-84-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3629.0 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

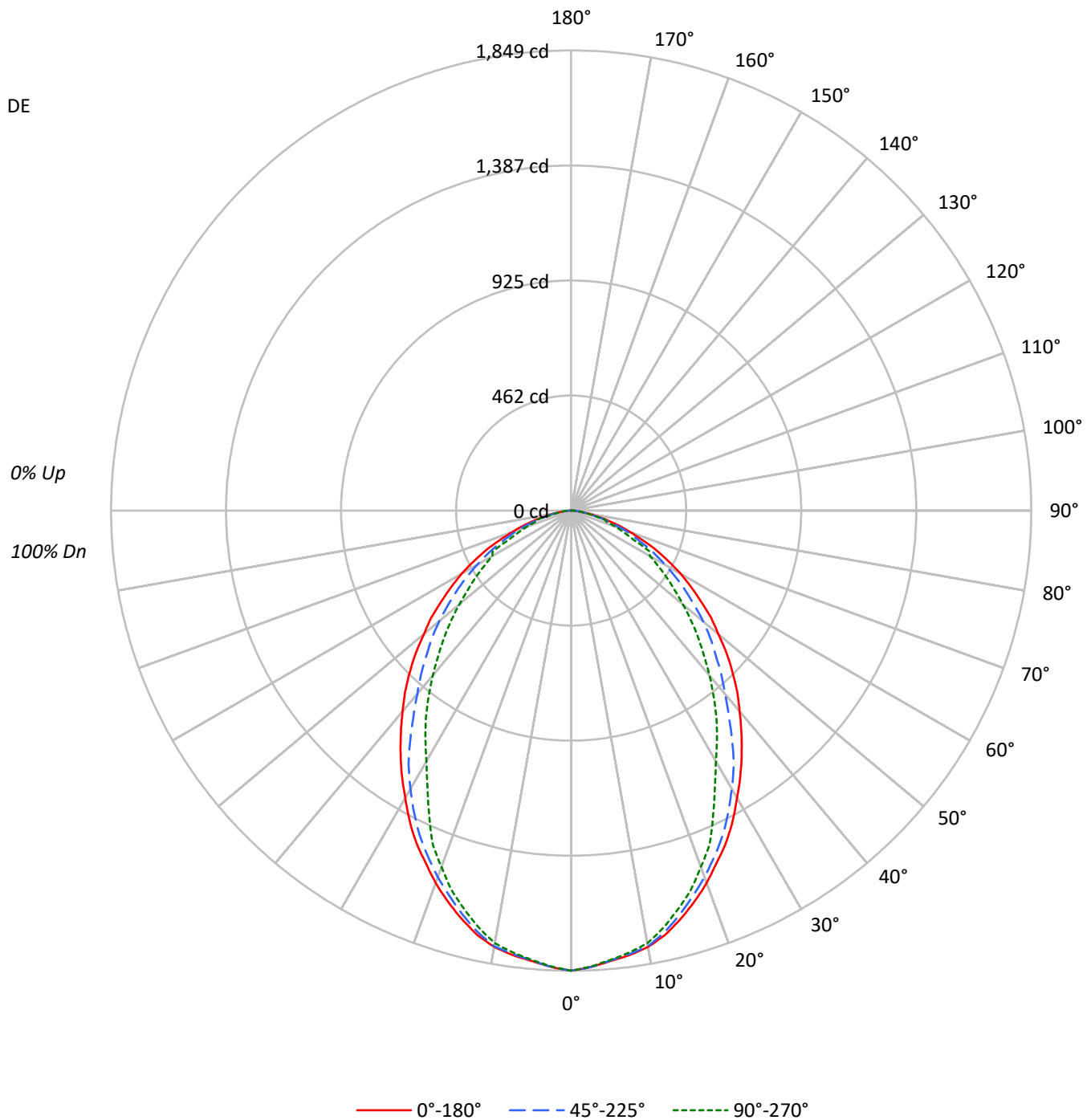
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									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°	2487	2487	2487
5°	2453	2451	2448
10°	2432	2429	2412
15°	2367	2343	2310
20°	2280	2243	2182
25°	2186	2138	2005
30°	2072	2005	1806
35°	1962	1853	1671
40°	1851	1689	1520
45°	1744	1561	1374
50°	1615	1449	1226
55°	1494	1313	1098
60°	1369	1173	983
65°	1204	1027	871
70°	992	900	740
75°	789	689	722
80°	530	497	463
85°	330	395	462

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1744 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.1	4.7
10°-20°	472.3	13.0
20°-30°	653.8	18.0
30°-40°	697.1	19.2
40°-50°	636.0	17.5
50°-60°	498.2	13.7
60°-70°	324.7	8.9
70°-80°	143.9	4.0
80°-90°	30.9	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°	1298.1	35.8
0°-40°	1995.3	55.0
0°-60°	3129.5	86.2
0°-90°	3629.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3629.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1849	1849	1849	1849	1849	
5°	1816	1814	1814	1812	1812	172
15°	1699	1699	1682	1665	1658	478
25°	1472	1464	1440	1389	1351	676
35°	1195	1186	1128	1043	1017	747
45°	917	898	821	752	722	706
55°	637	618	560	494	468	571
65°	378	357	323	329	274	373
75°	152	141	132	126	139	163
85°	21	24	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1848.6	1848.6	1848.6	1848.6	1848.6
2.5°	1835.7	1835.7	1835.7	1833.6	1833.6
5°	1816.5	1814.4	1814.4	1812.2	1812.2
7.5°	1801.5	1799.4	1797.3	1795.1	1790.9
10°	1780.2	1780.2	1778.0	1767.4	1765.2
12.5°	1746.0	1743.8	1735.3	1720.3	1716.1
15°	1699.0	1699.0	1681.9	1664.8	1658.4
17.5°	1647.7	1645.5	1624.2	1607.1	1598.5
20°	1592.1	1587.8	1566.5	1538.7	1523.7
22.5°	1530.1	1530.1	1504.5	1468.2	1453.2
25°	1472.4	1463.9	1440.4	1389.1	1350.6
27.5°	1406.2	1393.4	1367.7	1295.1	1250.2
30°	1333.5	1327.1	1290.8	1196.8	1162.6
32.5°	1265.1	1254.5	1216.0	1117.7	1089.9
35°	1194.6	1186.1	1128.4	1042.9	1017.2
37.5°	1124.1	1113.4	1040.8	972.4	940.3
40°	1053.6	1040.8	961.7	899.7	865.5
42.5°	987.3	970.2	893.3	827.0	788.6
45°	916.8	897.6	820.6	752.2	722.3
47.5°	846.3	829.2	758.7	688.1	653.9
50°	771.5	756.5	692.4	621.9	585.6
52.5°	709.5	686.0	624.0	553.5	523.6
55°	636.8	617.6	559.9	493.7	468.0
57.5°	570.6	551.4	497.9	436.0	414.6
60°	508.6	480.8	436.0	382.5	365.4
62.5°	440.2	418.9	380.4	335.5	356.9
65°	378.3	356.9	322.7	329.1	273.5
67.5°	309.9	299.2	269.3	239.4	230.8
70°	252.2	239.4	228.7	196.6	188.1
72.5°	200.9	188.1	173.1	156.0	149.6
75°	151.7	141.0	132.5	126.1	138.9
77.5°	104.7	100.4	94.0	87.6	85.5
80°	68.4	66.2	64.1	62.0	59.8
82.5°	40.6	40.6	40.6	40.6	40.6
85°	21.4	23.5	25.6	27.8	29.9
87.5°	12.8	12.8	15.0	17.1	19.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)