

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: P562346

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562346
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-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3279.0 lumens
Efficiency: N/A
Efficacy: 98.5 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

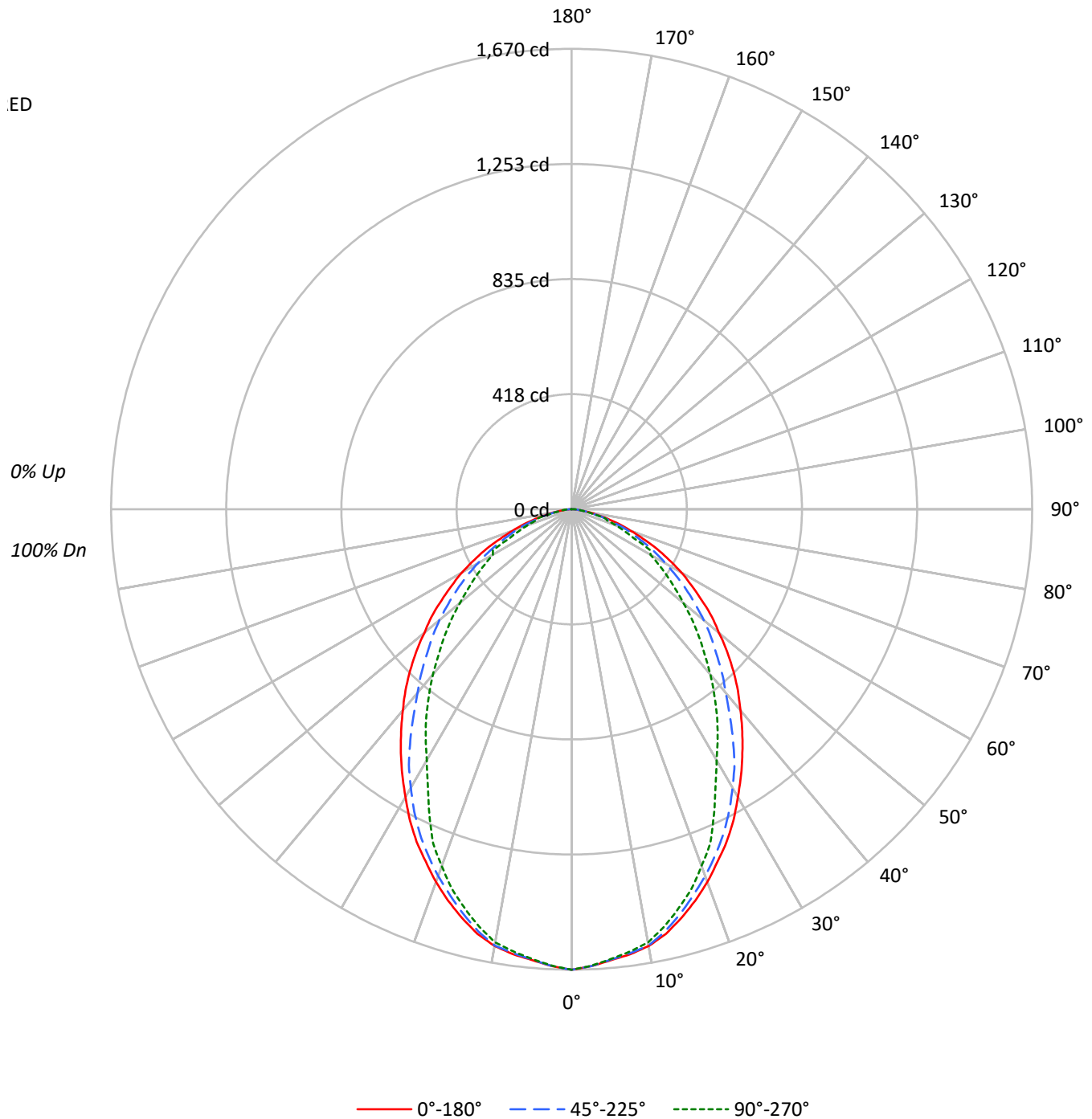
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2247	2247	2247
5°	2217	2214	2212
10°	2198	2195	2179
15°	2138	2117	2087
20°	2060	2027	1971
25°	1975	1932	1812
30°	1872	1812	1632
35°	1773	1675	1510
40°	1672	1526	1374
45°	1576	1411	1242
50°	1459	1310	1108
55°	1350	1187	992
60°	1237	1060	889
65°	1088	928	787
70°	897	813	668
75°	713	622	652
80°	479	449	419
85°	298	358	417

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1576 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.5	4.7
10°-20°	426.7	13.0
20°-30°	590.7	18.0
30°-40°	629.9	19.2
40°-50°	574.7	17.5
50°-60°	450.2	13.7
60°-70°	293.4	8.9
70°-80°	130.0	4.0
80°-90°	27.9	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°	1172.9	35.8
0°-40°	1802.8	55.0
0°-60°	2827.7	86.2
0°-90°	3279.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3279.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1670	1670	1670	1670	1670	
5°	1641	1639	1639	1638	1638	156
15°	1535	1535	1520	1504	1498	432
25°	1330	1323	1302	1255	1220	611
35°	1079	1072	1020	942	919	675
45°	828	811	742	680	653	638
55°	575	558	506	446	423	516
65°	342	322	292	297	247	337
75°	137	127	120	114	126	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1670.3	1670.3	1670.3	1670.3	1670.3
2.5°	1658.7	1658.7	1658.7	1656.8	1656.8
5°	1641.3	1639.4	1639.4	1637.5	1637.5
7.5°	1627.8	1625.9	1623.9	1622.0	1618.1
10°	1608.5	1608.5	1606.6	1596.9	1595.0
12.5°	1577.6	1575.7	1567.9	1554.4	1550.6
15°	1535.1	1535.1	1519.7	1504.2	1498.4
17.5°	1488.8	1486.8	1467.5	1452.1	1444.4
20°	1438.6	1434.7	1415.4	1390.3	1376.8
22.5°	1382.6	1382.6	1359.4	1326.6	1313.1
25°	1330.4	1322.7	1301.5	1255.1	1220.4
27.5°	1270.6	1259.0	1235.8	1170.2	1129.6
30°	1204.9	1199.1	1166.3	1081.3	1050.4
32.5°	1143.1	1133.5	1098.7	1009.9	984.8
35°	1079.4	1071.7	1019.5	942.3	919.1
37.5°	1015.7	1006.0	940.4	878.6	849.6
40°	952.0	940.4	868.9	812.9	782.0
42.5°	892.1	876.7	807.1	747.3	712.5
45°	828.4	811.0	741.5	679.7	652.7
47.5°	764.7	749.2	685.5	621.8	590.9
50°	697.1	683.6	625.6	561.9	529.1
52.5°	641.1	619.8	563.8	500.1	473.1
55°	575.4	558.0	505.9	446.1	422.9
57.5°	515.6	498.2	449.9	393.9	374.6
60°	459.6	434.5	393.9	345.6	330.2
62.5°	397.8	378.5	343.7	303.2	322.5
65°	341.8	322.5	291.6	297.4	247.2
67.5°	280.0	270.3	243.3	216.3	208.5
70°	227.9	216.3	206.6	177.6	169.9
72.5°	181.5	169.9	156.4	141.0	135.2
75°	137.1	127.4	119.7	113.9	125.5
77.5°	94.6	90.8	85.0	79.2	77.2
80°	61.8	59.9	57.9	56.0	54.1
82.5°	36.7	36.7	36.7	36.7	36.7
85°	19.3	21.2	23.2	25.1	27.0
87.5°	11.6	11.6	13.5	15.4	17.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)