

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: P562016

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562016
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-LD4-1HI-35-UNV-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4013.0 lumens
Efficiency: N/A
Efficacy: 92.9 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

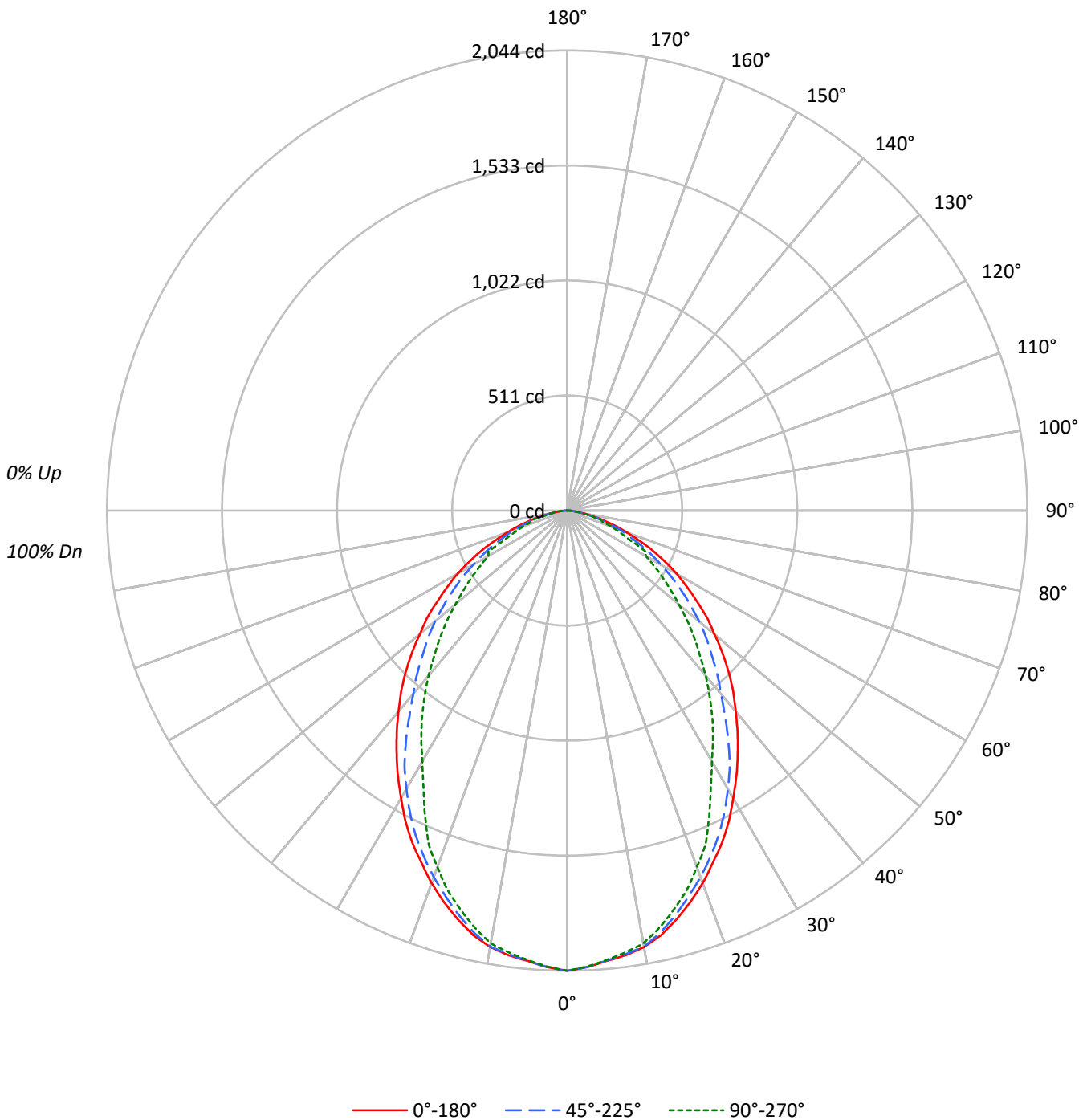
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2750	2750	2750
5°	2713	2710	2707
10°	2689	2686	2667
15°	2617	2591	2554
20°	2521	2480	2413
25°	2417	2365	2217
30°	2291	2218	1997
35°	2170	2050	1848
40°	2046	1868	1681
45°	1929	1727	1520
50°	1786	1603	1355
55°	1652	1453	1214
60°	1513	1297	1087
65°	1332	1136	963
70°	1097	995	818
75°	872	762	799
80°	586	549	513
85°	364	438	511

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1929 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.3	4.7
10°-20°	522.2	13.0
20°-30°	723.0	18.0
30°-40°	770.9	19.2
40°-50°	703.3	17.5
50°-60°	551.0	13.7
60°-70°	359.1	8.9
70°-80°	159.1	4.0
80°-90°	34.2	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°	1435.5	35.8
0°-40°	2206.4	55.0
0°-60°	3460.7	86.2
0°-90°	4013.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4013.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2044	2044	2044	2044	2044	
5°	2009	2006	2006	2004	2004	191
15°	1879	1879	1860	1841	1834	528
25°	1628	1619	1593	1536	1494	748
35°	1321	1312	1248	1153	1125	826
45°	1014	992	908	832	799	781
55°	704	683	619	546	518	632
65°	418	395	357	364	302	412
75°	168	156	146	139	154	180
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2044.2	2044.2	2044.2	2044.2	2044.2
2.5°	2030.0	2030.0	2030.0	2027.6	2027.6
5°	2008.7	2006.4	2006.4	2004.0	2004.0
7.5°	1992.2	1989.8	1987.5	1985.1	1980.4
10°	1968.5	1968.5	1966.2	1954.4	1952.0
12.5°	1930.7	1928.4	1918.9	1902.4	1897.7
15°	1878.7	1878.7	1859.8	1840.9	1833.8
17.5°	1822.0	1819.7	1796.0	1777.1	1767.7
20°	1760.6	1755.9	1732.2	1701.5	1685.0
22.5°	1692.1	1692.1	1663.7	1623.5	1607.0
25°	1628.2	1618.8	1592.8	1536.1	1493.5
27.5°	1555.0	1540.8	1512.4	1432.1	1382.5
30°	1474.6	1467.5	1427.4	1323.4	1285.6
32.5°	1399.0	1387.2	1344.7	1236.0	1205.2
35°	1321.0	1311.6	1247.8	1153.2	1124.9
37.5°	1243.0	1231.2	1150.9	1075.3	1039.8
40°	1165.1	1150.9	1063.4	994.9	957.1
42.5°	1091.8	1072.9	987.8	914.6	872.0
45°	1013.8	992.5	907.5	831.8	798.8
47.5°	935.8	916.9	838.9	761.0	723.1
50°	853.1	836.6	765.7	687.7	647.5
52.5°	784.6	758.6	690.1	612.1	579.0
55°	704.2	683.0	619.2	545.9	517.5
57.5°	631.0	609.7	550.6	482.1	458.5
60°	562.4	531.7	482.1	423.0	404.1
62.5°	486.8	463.2	420.6	371.0	394.7
65°	418.3	394.7	356.8	363.9	302.5
67.5°	342.7	330.8	297.8	264.7	255.2
70°	278.9	264.7	252.9	217.4	208.0
72.5°	222.1	208.0	191.4	172.5	165.4
75°	167.8	156.0	146.5	139.4	153.6
77.5°	115.8	111.1	104.0	96.9	94.5
80°	75.6	73.3	70.9	68.5	66.2
82.5°	44.9	44.9	44.9	44.9	44.9
85°	23.6	26.0	28.4	30.7	33.1
87.5°	14.2	14.2	16.5	18.9	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)