

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: P560794

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560794
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-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 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: 3178.0 lumens
Efficiency: N/A
Efficacy: 73.6 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

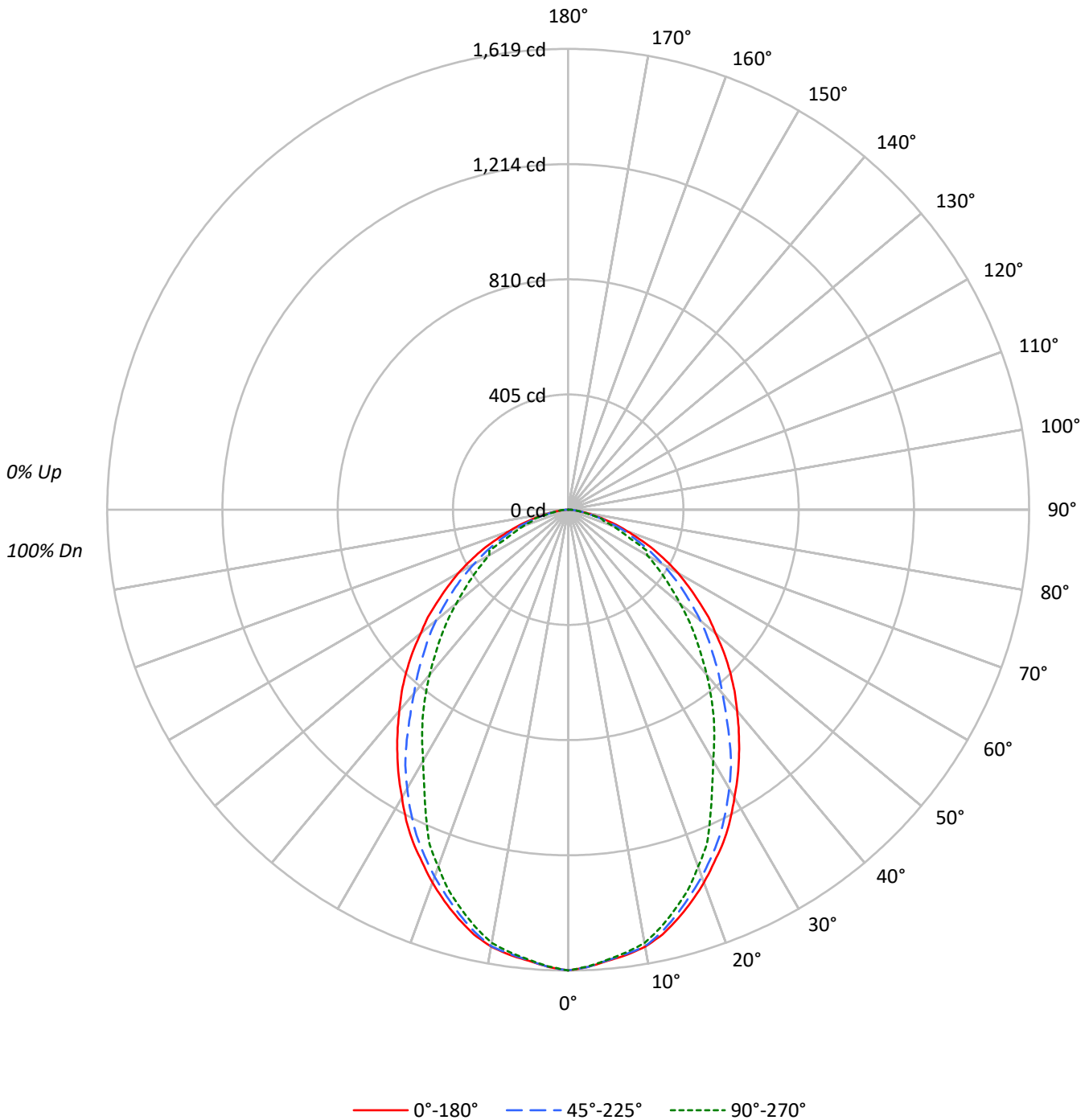
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4356	4356	4356
5°	4297	4292	4287
10°	4260	4255	4224
15°	4145	4103	4046
20°	3993	3928	3821
25°	3829	3745	3512
30°	3629	3512	3164
35°	3437	3246	2926
40°	3241	2958	2662
45°	3056	2735	2407
50°	2828	2539	2147
55°	2616	2300	1923
60°	2397	2055	1722
65°	2110	1799	1525
70°	1737	1575	1296
75°	1382	1206	1264
80°	928	869	812
85°	577	695	809

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3056 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.7	4.7
10°-20°	413.6	13.0
20°-30°	572.5	18.0
30°-40°	610.5	19.2
40°-50°	557.0	17.5
50°-60°	436.3	13.7
60°-70°	284.4	8.9
70°-80°	126.0	4.0
80°-90°	27.1	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°	1136.8	35.8
0°-40°	1747.3	55.0
0°-60°	2740.6	86.2
0°-90°	3178.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3178.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1619	1619	1619	1619	1619	
5°	1591	1589	1589	1587	1587	151
15°	1488	1488	1473	1458	1452	418
25°	1290	1282	1261	1216	1183	592
35°	1046	1039	988	913	891	654
45°	803	786	719	659	633	618
55°	558	541	490	432	410	500
65°	331	312	283	288	240	326
75°	133	124	116	110	122	142
85°	19	21	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°	1618.8	1618.8	1618.8	1618.8	1618.8
2.5°	1607.6	1607.6	1607.6	1605.7	1605.7
5°	1590.8	1588.9	1588.9	1587.0	1587.0
7.5°	1577.7	1575.8	1573.9	1572.0	1568.3
10°	1558.9	1558.9	1557.1	1547.7	1545.8
12.5°	1529.0	1527.1	1519.6	1506.5	1502.8
15°	1487.8	1487.8	1472.9	1457.9	1452.3
17.5°	1442.9	1441.0	1422.3	1407.4	1399.9
20°	1394.3	1390.5	1371.8	1347.5	1334.4
22.5°	1340.0	1340.0	1317.5	1285.7	1272.6
25°	1289.5	1282.0	1261.4	1216.5	1182.8
27.5°	1231.4	1220.2	1197.7	1134.1	1094.8
30°	1167.8	1162.2	1130.4	1048.0	1018.1
32.5°	1107.9	1098.6	1064.9	978.8	954.5
35°	1046.2	1038.7	988.1	913.3	890.8
37.5°	984.4	975.0	911.4	851.5	823.5
40°	922.6	911.4	842.2	787.9	757.9
42.5°	864.6	849.7	782.3	724.3	690.6
45°	802.9	786.0	718.6	658.8	632.6
47.5°	741.1	726.1	664.4	602.6	572.7
50°	675.6	662.5	606.4	544.6	512.8
52.5°	621.3	600.7	546.5	484.7	458.5
55°	557.7	540.9	490.3	432.3	409.9
57.5°	499.7	482.8	436.1	381.8	363.1
60°	445.4	421.1	381.8	335.0	320.0
62.5°	385.5	366.8	333.1	293.8	312.5
65°	331.3	312.5	282.6	288.2	239.5
67.5°	271.4	262.0	235.8	209.6	202.1
70°	220.8	209.6	200.2	172.2	164.7
72.5°	175.9	164.7	151.6	136.6	131.0
75°	132.9	123.5	116.0	110.4	121.6
77.5°	91.7	88.0	82.3	76.7	74.9
80°	59.9	58.0	56.1	54.3	52.4
82.5°	35.6	35.6	35.6	35.6	35.6
85°	18.7	20.6	22.5	24.3	26.2
87.5°	11.2	11.2	13.1	15.0	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)