

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: P560800

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560800
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-93-84-EDD-90
Description: 1X4 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: 3416.0 lumens
Efficiency: N/A
Efficacy: 79.1 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

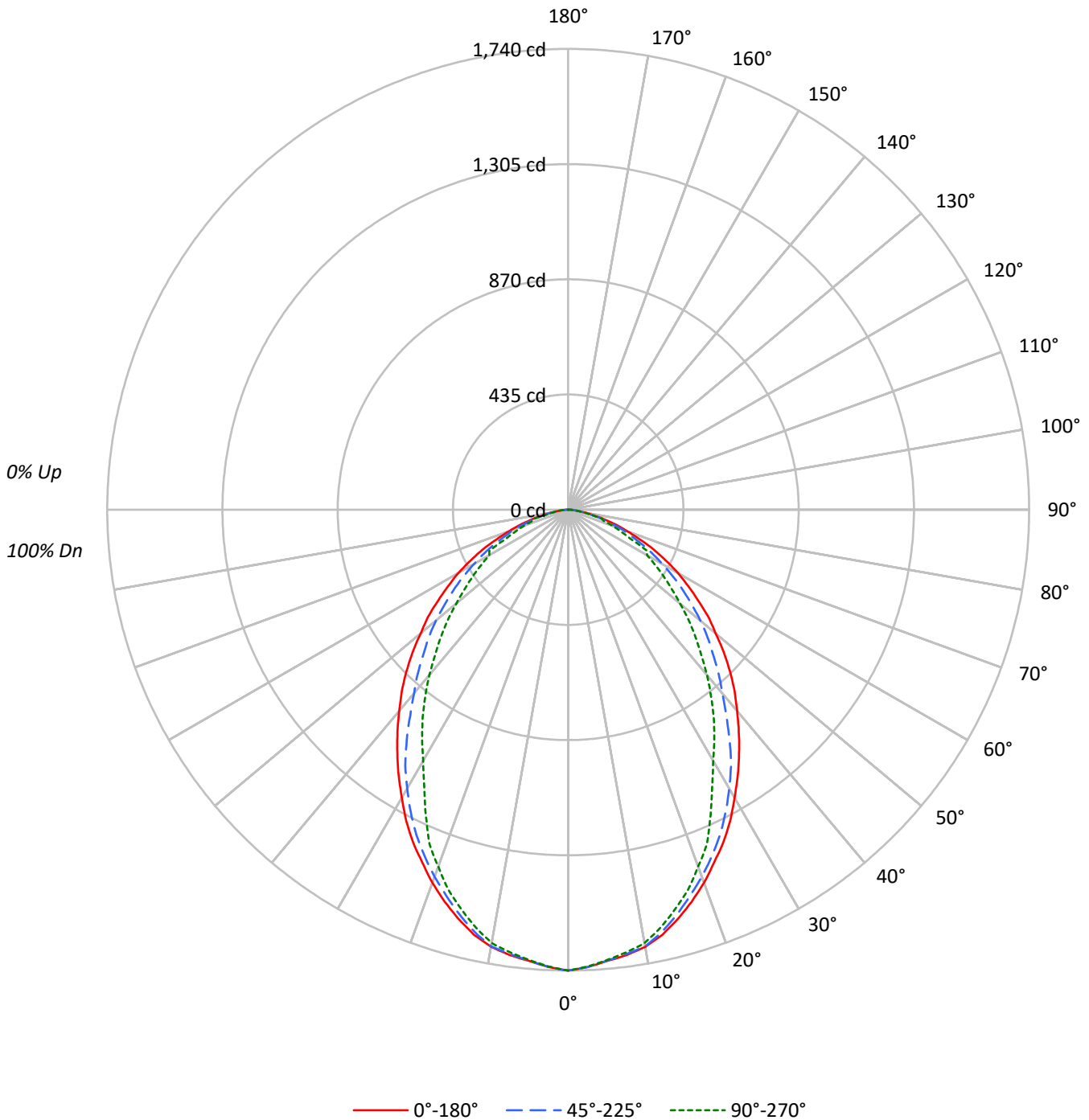
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P560800

CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-84-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P560800

CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-84-EDD-90

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	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°	4683	4683	4683
5°	4619	4613	4608
10°	4579	4573	4540
15°	4455	4411	4349
20°	4292	4222	4107
25°	4115	4026	3775
30°	3901	3775	3400
35°	3694	3489	3145
40°	3484	3180	2862
45°	3284	2940	2587
50°	3040	2729	2308
55°	2813	2472	2067
60°	2577	2209	1851
65°	2267	1934	1640
70°	1868	1693	1393
75°	1485	1297	1360
80°	998	934	872
85°	621	744	871

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3284 cd/sqm



TEST NUMBER: P560800

CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-84-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.0	4.7
10°-20°	444.5	13.0
20°-30°	615.4	18.0
30°-40°	656.2	19.2
40°-50°	598.7	17.5
50°-60°	469.0	13.7
60°-70°	305.7	8.9
70°-80°	135.4	4.0
80°-90°	29.1	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°	1221.9	35.8
0°-40°	1878.2	55.0
0°-60°	2945.8	86.2
0°-90°	3416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3416.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1740	1740	1740	1740	1740	
5°	1710	1708	1708	1706	1706	162
15°	1599	1599	1583	1567	1561	450
25°	1386	1378	1356	1308	1271	636
35°	1124	1116	1062	982	958	703
45°	863	845	772	708	680	665
55°	600	581	527	465	440	538
65°	356	336	304	310	258	351
75°	143	133	125	119	131	153
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



TEST NUMBER: P560800

CATALOG NUMBER: FSR-12-4-LD4-1HI-35-UNV-93-84-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1740.1	1740.1	1740.1	1740.1	1740.1
2.5°	1728.0	1728.0	1728.0	1726.0	1726.0
5°	1709.9	1707.9	1707.9	1705.9	1705.9
7.5°	1695.8	1693.8	1691.8	1689.8	1685.8
10°	1675.7	1675.7	1673.7	1663.6	1661.6
12.5°	1643.5	1641.5	1633.4	1619.4	1615.3
15°	1599.3	1599.3	1583.2	1567.1	1561.0
17.5°	1551.0	1549.0	1528.8	1512.7	1504.7
20°	1498.7	1494.6	1474.5	1448.4	1434.3
22.5°	1440.3	1440.3	1416.2	1382.0	1367.9
25°	1386.0	1378.0	1355.8	1307.6	1271.4
27.5°	1323.7	1311.6	1287.4	1219.1	1176.8
30°	1255.3	1249.2	1215.0	1126.5	1094.3
32.5°	1190.9	1180.8	1144.6	1052.1	1025.9
35°	1124.5	1116.5	1062.1	981.7	957.5
37.5°	1058.1	1048.1	979.7	915.3	885.1
40°	991.7	979.7	905.2	846.9	814.7
42.5°	929.4	913.3	840.9	778.5	742.3
45°	863.0	844.9	772.5	708.1	679.9
47.5°	796.6	780.5	714.1	647.7	615.6
50°	726.2	712.1	651.8	585.4	551.2
52.5°	667.9	645.7	587.4	521.0	492.9
55°	599.5	581.4	527.0	464.7	440.5
57.5°	537.1	519.0	468.7	410.4	390.3
60°	478.8	452.6	410.4	360.1	344.0
62.5°	414.4	394.3	358.1	315.8	335.9
65°	356.1	335.9	303.8	309.8	257.5
67.5°	291.7	281.6	253.5	225.3	217.3
70°	237.4	225.3	215.2	185.1	177.0
72.5°	189.1	177.0	162.9	146.8	140.8
75°	142.8	132.8	124.7	118.7	130.8
77.5°	98.6	94.5	88.5	82.5	80.5
80°	64.4	62.4	60.3	58.3	56.3
82.5°	38.2	38.2	38.2	38.2	38.2
85°	20.1	22.1	24.1	26.2	28.2
87.5°	12.1	12.1	14.1	16.1	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)