

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: P561800

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561800
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-LD4-2STD-40-UNV-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4522.0 lumens
Efficiency: N/A
Efficacy: 67.9 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

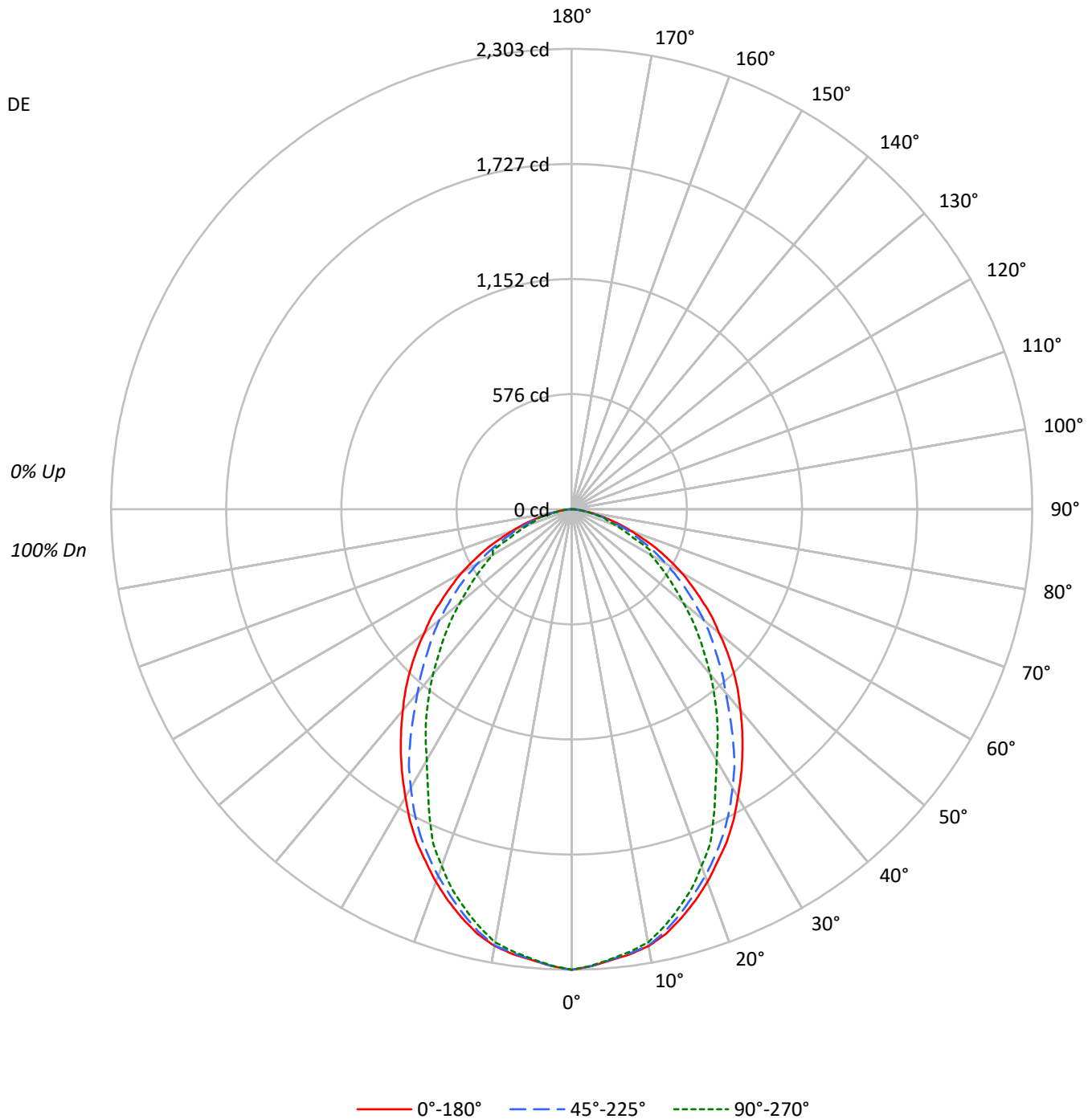
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561800

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-81-88-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561800

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-81-88-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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6198	6198	6198
5°	6114	6107	6100
10°	6061	6054	6010
15°	5898	5838	5757
20°	5681	5590	5437
25°	5448	5329	4997
30°	5163	4998	4501
35°	4890	4619	4164
40°	4612	4209	3789
45°	4348	3892	3425
50°	4024	3612	3054
55°	3723	3273	2736
60°	3411	2923	2451
65°	3001	2560	2171
70°	2472	2242	1843
75°	1966	1717	1800
80°	1320	1238	1156
85°	821	988	1152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4348 cd/sqm



TEST NUMBER: P561800

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-81-88-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.4	4.7
10°-20°	588.5	13.0
20°-30°	814.7	18.0
30°-40°	868.7	19.2
40°-50°	792.5	17.5
50°-60°	620.9	13.7
60°-70°	404.6	8.9
70°-80°	179.3	4.0
80°-90°	38.5	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°	1617.5	35.8
0°-40°	2486.2	55.0
0°-60°	3899.6	86.2
0°-90°	4522.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4522.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2303	2303	2303	2303	2303	
5°	2264	2261	2261	2258	2258	215
15°	2117	2117	2096	2074	2066	595
25°	1835	1824	1795	1731	1683	842
35°	1489	1478	1406	1300	1268	931
45°	1142	1118	1023	937	900	880
55°	794	770	698	615	583	712
65°	471	445	402	410	341	464
75°	189	176	165	157	173	203
85°	27	29	32	35	37	37
90°	0	0	0	0	0	



TEST NUMBER: P561800

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-81-88-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2303.4	2303.4	2303.4	2303.4	2303.4
2.5°	2287.5	2287.5	2287.5	2284.8	2284.8
5°	2263.5	2260.8	2260.8	2258.2	2258.2
7.5°	2244.9	2242.2	2239.5	2236.9	2231.5
10°	2218.2	2218.2	2215.6	2202.3	2199.6
12.5°	2175.6	2173.0	2162.3	2143.7	2138.3
15°	2117.0	2117.0	2095.7	2074.4	2066.4
17.5°	2053.1	2050.5	2023.8	2002.5	1991.9
20°	1983.9	1978.6	1951.9	1917.3	1898.7
22.5°	1906.7	1906.7	1874.7	1829.4	1810.8
25°	1834.8	1824.1	1794.8	1730.9	1683.0
27.5°	1752.2	1736.2	1704.3	1613.7	1557.8
30°	1661.7	1653.7	1608.4	1491.2	1448.6
32.5°	1576.5	1563.1	1515.2	1392.7	1358.1
35°	1488.6	1477.9	1406.0	1299.5	1267.6
37.5°	1400.7	1387.4	1296.9	1211.6	1171.7
40°	1312.8	1296.9	1198.3	1121.1	1078.5
42.5°	1230.3	1209.0	1113.1	1030.6	982.6
45°	1142.4	1118.4	1022.6	937.4	900.1
47.5°	1054.5	1033.2	945.3	857.5	814.9
50°	961.3	942.7	862.8	774.9	729.6
52.5°	884.1	854.8	777.6	689.7	652.4
55°	793.6	769.6	697.7	615.1	583.2
57.5°	711.0	687.0	620.5	543.2	516.6
60°	633.8	599.2	543.2	476.7	455.4
62.5°	548.6	521.9	474.0	418.1	444.7
65°	471.3	444.7	402.1	410.1	340.9
67.5°	386.1	372.8	335.5	298.2	287.6
70°	314.2	298.2	284.9	245.0	234.3
72.5°	250.3	234.3	215.7	194.4	186.4
75°	189.1	175.8	165.1	157.1	173.1
77.5°	130.5	125.2	117.2	109.2	106.5
80°	85.2	82.6	79.9	77.2	74.6
82.5°	50.6	50.6	50.6	50.6	50.6
85°	26.6	29.3	32.0	34.6	37.3
87.5°	16.0	16.0	18.6	21.3	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)