

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: P561618

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561618
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-LD4-2LO-40-UNV-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

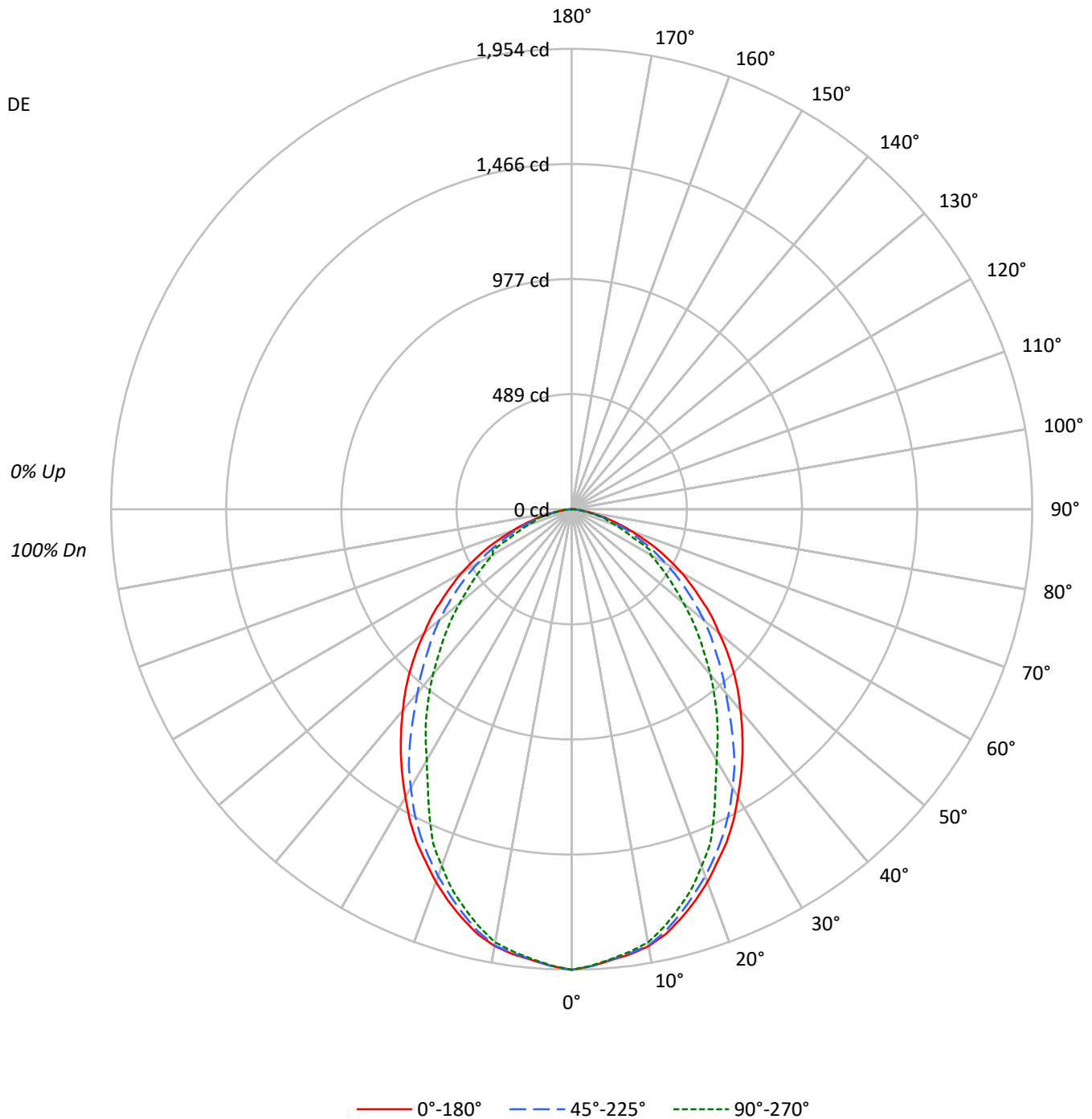
Lumens per Lamp: N/A
Luminaire Lumens: 3837.0 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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: P561618
CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-85-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561618

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-85-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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5260	5260	5260
5°	5188	5182	5176
10°	5143	5137	5100
15°	5004	4954	4885
20°	4821	4743	4614
25°	4622	4522	4240
30°	4381	4241	3819
35°	4149	3919	3533
40°	3913	3572	3215
45°	3689	3302	2906
50°	3415	3065	2592
55°	3159	2777	2321
60°	2894	2481	2080
65°	2546	2173	1841
70°	2098	1902	1564
75°	1668	1457	1527
80°	1120	1051	981
85°	698	837	976

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3689 cd/sqm



TEST NUMBER: P561618

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-85-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.9	4.7
10°-20°	499.3	13.0
20°-30°	691.3	18.0
30°-40°	737.1	19.2
40°-50°	672.4	17.5
50°-60°	526.8	13.7
60°-70°	343.3	8.9
70°-80°	152.1	4.0
80°-90°	32.7	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°	1372.5	35.8
0°-40°	2109.6	55.0
0°-60°	3308.9	86.2
0°-90°	3837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3837.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1954	1954	1954	1954	1954	
5°	1921	1918	1918	1916	1916	182
15°	1796	1796	1778	1760	1753	505
25°	1557	1548	1523	1469	1428	715
35°	1263	1254	1193	1103	1076	790
45°	969	949	868	795	764	747
55°	673	653	592	522	495	604
65°	400	377	341	348	289	394
75°	160	149	140	133	147	172
85°	23	25	27	29	32	31
90°	0	0	0	0	0	



TEST NUMBER: P561618

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-85-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1954.5	1954.5	1954.5	1954.5	1954.5
2.5°	1941.0	1941.0	1941.0	1938.7	1938.7
5°	1920.6	1918.4	1918.4	1916.1	1916.1
7.5°	1904.8	1902.5	1900.3	1898.0	1893.5
10°	1882.2	1882.2	1880.0	1868.7	1866.4
12.5°	1846.1	1843.8	1834.8	1818.9	1814.4
15°	1796.3	1796.3	1778.3	1760.2	1753.4
17.5°	1742.1	1739.9	1717.3	1699.2	1690.1
20°	1683.4	1678.9	1656.3	1626.9	1611.1
22.5°	1617.8	1617.8	1590.7	1552.3	1536.5
25°	1556.8	1547.8	1522.9	1468.7	1428.0
27.5°	1486.8	1473.2	1446.1	1369.3	1321.8
30°	1410.0	1403.2	1364.8	1265.4	1229.2
32.5°	1337.7	1326.4	1285.7	1181.7	1152.4
35°	1263.1	1254.1	1193.0	1102.7	1075.5
37.5°	1188.5	1177.2	1100.4	1028.1	994.2
40°	1114.0	1100.4	1016.8	951.3	915.1
42.5°	1043.9	1025.8	944.5	874.4	833.8
45°	969.3	949.0	867.7	795.4	763.7
47.5°	894.8	876.7	802.1	727.6	691.4
50°	815.7	799.9	732.1	657.5	619.1
52.5°	750.2	725.3	659.8	585.2	553.6
55°	673.3	653.0	592.0	522.0	494.8
57.5°	603.3	583.0	526.5	460.9	438.4
60°	537.8	508.4	460.9	404.5	386.4
62.5°	465.5	442.9	402.2	354.8	377.3
65°	399.9	377.3	341.2	348.0	289.2
67.5°	327.6	316.3	284.7	253.1	244.0
70°	266.6	253.1	241.8	207.9	198.8
72.5°	212.4	198.8	183.0	164.9	158.2
75°	160.4	149.1	140.1	133.3	146.9
77.5°	110.7	106.2	99.4	92.6	90.4
80°	72.3	70.0	67.8	65.5	63.3
82.5°	42.9	42.9	42.9	42.9	42.9
85°	22.6	24.9	27.1	29.4	31.6
87.5°	13.6	13.6	15.8	18.1	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)