

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: P561417

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561417
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-LD4-2HI-40-UNV-81-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

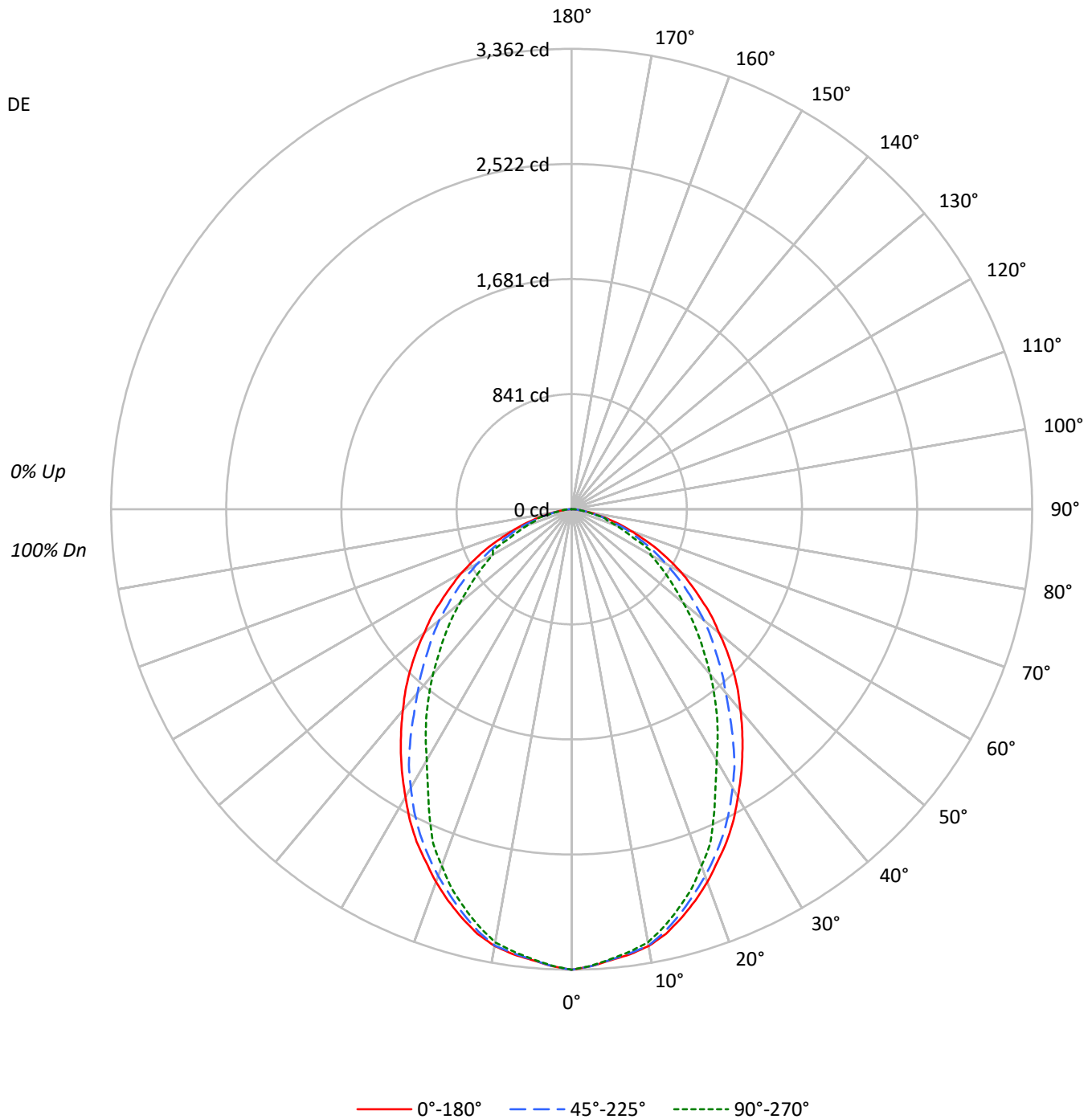
Lumens per Lamp: N/A
Luminaire Lumens: 6601.0 lumens
Efficiency: N/A
Efficacy: 76.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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: P561417
CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-81-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561417

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

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°	9048	9048	9048
5°	8925	8915	8904
10°	8848	8837	8774
15°	8610	8523	8404
20°	8293	8159	7937
25°	7952	7779	7294
30°	7537	7296	6571
35°	7138	6743	6078
40°	6732	6145	5530
45°	6346	5681	5000
50°	5875	5273	4459
55°	5435	4778	3994
60°	4979	4268	3577
65°	4381	3738	3168
70°	3609	3272	2692
75°	2870	2506	2627
80°	1928	1807	1686
85°	1201	1439	1680

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6346 cd/sqm



TEST NUMBER: P561417

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.0	4.7
10°-20°	859.0	13.0
20°-30°	1189.2	18.0
30°-40°	1268.1	19.2
40°-50°	1156.8	17.5
50°-60°	906.3	13.7
60°-70°	590.7	8.9
70°-80°	261.7	4.0
80°-90°	56.2	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°	2361.2	35.8
0°-40°	3629.3	55.0
0°-60°	5692.5	86.2
0°-90°	6601.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6601.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3362	3362	3362	3362	3362	
5°	3304	3300	3300	3296	3296	314
15°	3090	3090	3059	3028	3016	869
25°	2678	2663	2620	2527	2457	1230
35°	2173	2157	2052	1897	1850	1358
45°	1668	1633	1493	1368	1314	1285
55°	1158	1123	1018	898	851	1039
65°	688	649	587	599	498	678
75°	276	257	241	229	253	296
85°	39	43	47	50	54	54
90°	0	0	0	0	0	



TEST NUMBER: P561417

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3362.5	3362.5	3362.5	3362.5	3362.5
2.5°	3339.1	3339.1	3339.1	3335.3	3335.3
5°	3304.2	3300.3	3300.3	3296.4	3296.4
7.5°	3276.9	3273.1	3269.2	3265.3	3257.5
10°	3238.1	3238.1	3234.2	3214.7	3210.9
12.5°	3175.9	3172.0	3156.4	3129.2	3121.5
15°	3090.4	3090.4	3059.3	3028.2	3016.5
17.5°	2997.1	2993.2	2954.3	2923.2	2907.7
20°	2896.0	2888.2	2849.3	2798.8	2771.6
22.5°	2783.3	2783.3	2736.6	2670.5	2643.3
25°	2678.3	2662.8	2620.0	2526.7	2456.7
27.5°	2557.8	2534.5	2487.8	2355.7	2274.0
30°	2425.6	2414.0	2347.9	2176.9	2114.7
32.5°	2301.2	2281.8	2211.8	2033.0	1982.5
35°	2173.0	2157.4	2052.5	1897.0	1850.3
37.5°	2044.7	2025.3	1893.1	1768.7	1710.4
40°	1916.4	1893.1	1749.3	1636.5	1574.3
42.5°	1795.9	1764.8	1624.9	1504.4	1434.4
45°	1667.6	1632.6	1492.7	1368.3	1313.9
47.5°	1539.3	1508.2	1380.0	1251.7	1189.5
50°	1403.3	1376.1	1259.5	1131.2	1065.1
52.5°	1290.6	1247.8	1135.1	1006.8	952.4
55°	1158.4	1123.4	1018.5	898.0	851.3
57.5°	1037.9	1002.9	905.7	793.0	754.1
60°	925.2	874.6	793.0	695.8	664.7
62.5°	800.8	761.9	691.9	610.3	649.2
65°	688.0	649.2	587.0	598.6	497.6
67.5°	563.6	544.2	489.8	435.4	419.8
70°	458.7	435.4	415.9	357.6	342.1
72.5°	365.4	342.1	314.9	283.8	272.1
75°	276.0	256.6	241.0	229.3	252.7
77.5°	190.5	182.7	171.0	159.4	155.5
80°	124.4	120.5	116.6	112.7	108.8
82.5°	73.9	73.9	73.9	73.9	73.9
85°	38.9	42.8	46.6	50.5	54.4
87.5°	23.3	23.3	27.2	31.1	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)