

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: P561390

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561390
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-35-UNV-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6529.0 lumens
Efficiency: N/A
Efficacy: 75.6 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

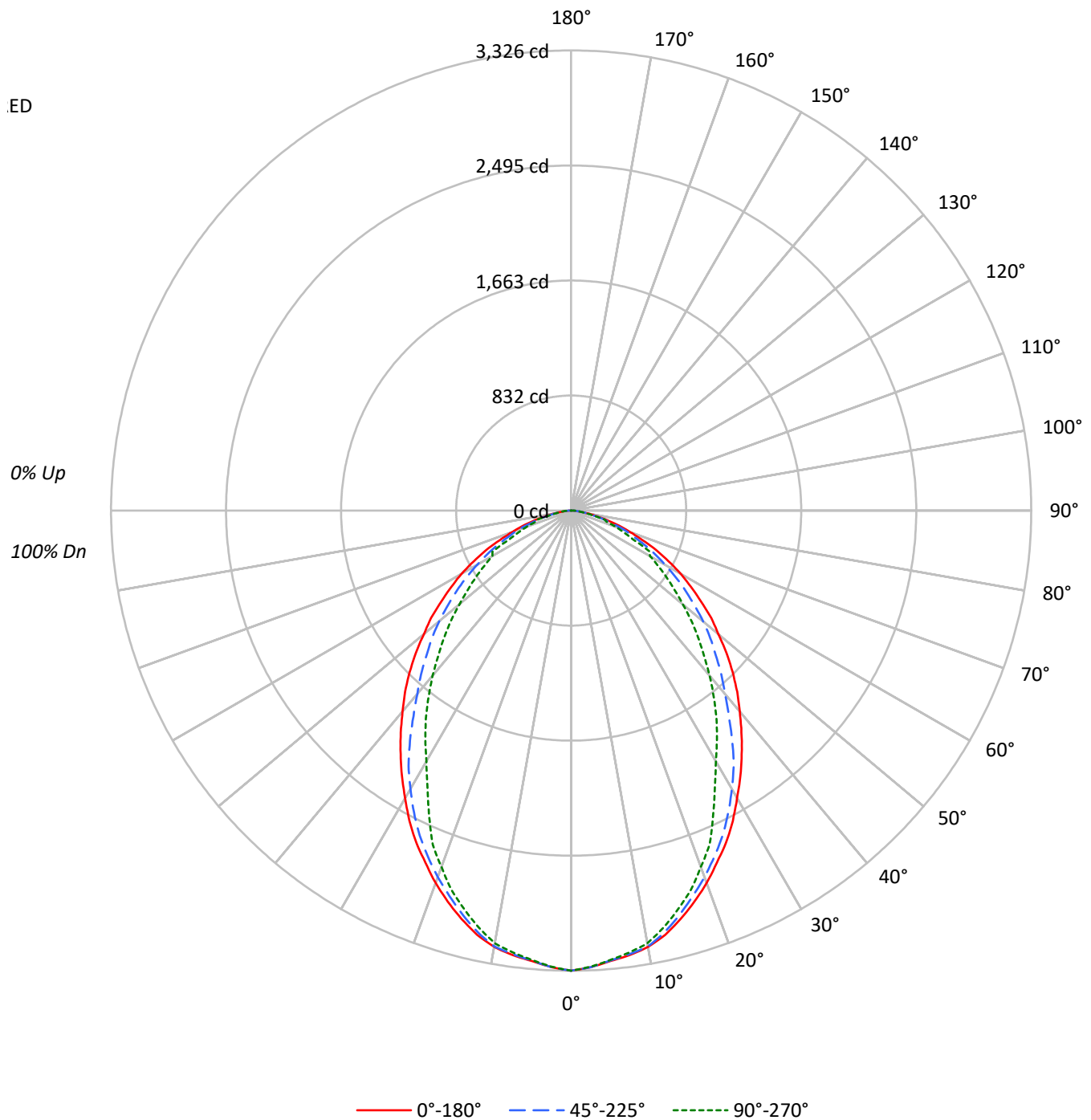
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561390

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561390

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-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°	8950	8950	8950
5°	8828	8818	8807
10°	8752	8741	8678
15°	8515	8430	8312
20°	8203	8071	7850
25°	7866	7694	7215
30°	7455	7216	6499
35°	7061	6669	6012
40°	6659	6078	5470
45°	6277	5619	4946
50°	5811	5215	4410
55°	5376	4726	3950
60°	4925	4221	3539
65°	4333	3697	3133
70°	3570	3237	2662
75°	2838	2479	2598
80°	1906	1787	1669
85°	1186	1423	1661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6277 cd/sqm



TEST NUMBER: P561390

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.6	4.7
10°-20°	849.6	13.0
20°-30°	1176.3	18.0
30°-40°	1254.2	19.2
40°-50°	1144.2	17.5
50°-60°	896.4	13.7
60°-70°	584.2	8.9
70°-80°	258.8	4.0
80°-90°	55.6	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°	2335.5	35.8
0°-40°	3589.7	55.0
0°-60°	5630.3	86.2
0°-90°	6529.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6529.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3326	3326	3326	3326	3326	
5°	3268	3264	3264	3260	3260	310
15°	3057	3057	3026	2995	2984	859
25°	2649	2634	2591	2499	2430	1216
35°	2149	2134	2030	1876	1830	1344
45°	1649	1615	1476	1353	1300	1271
55°	1146	1111	1007	888	842	1028
65°	680	642	581	592	492	671
75°	273	254	238	227	250	293
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



TEST NUMBER: P561390

CATALOG NUMBER: FSR-12-4-LD4-2HI-35-UNV-93-97-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3325.8	3325.8	3325.8	3325.8	3325.8
2.5°	3302.7	3302.7	3302.7	3298.9	3298.9
5°	3268.1	3264.3	3264.3	3260.4	3260.4
7.5°	3241.2	3237.4	3233.5	3229.7	3222.0
10°	3202.8	3202.8	3198.9	3179.7	3175.8
12.5°	3141.2	3137.4	3122.0	3095.1	3087.4
15°	3056.6	3056.6	3025.9	2995.1	2983.6
17.5°	2964.4	2960.5	2922.1	2891.3	2875.9
20°	2864.4	2856.7	2818.3	2768.3	2741.4
22.5°	2752.9	2752.9	2706.8	2641.4	2614.5
25°	2649.1	2633.7	2591.4	2499.1	2429.9
27.5°	2529.9	2506.8	2460.7	2330.0	2249.2
30°	2399.2	2387.6	2322.3	2153.1	2091.6
32.5°	2276.1	2256.9	2187.7	2010.9	1960.9
35°	2149.3	2133.9	2030.1	1876.3	1830.1
37.5°	2022.4	2003.2	1872.4	1749.4	1691.7
40°	1895.5	1872.4	1730.2	1618.7	1557.2
42.5°	1776.3	1745.6	1607.1	1488.0	1418.7
45°	1649.4	1614.8	1476.4	1353.4	1299.6
47.5°	1522.6	1491.8	1364.9	1238.0	1176.5
50°	1388.0	1361.1	1245.7	1118.8	1053.5
52.5°	1276.5	1234.2	1122.7	995.8	942.0
55°	1145.8	1111.2	1007.3	888.2	842.0
57.5°	1026.6	992.0	895.8	784.3	745.9
60°	915.1	865.1	784.3	688.2	657.5
62.5°	792.0	753.6	684.4	603.6	642.1
65°	680.5	642.1	580.6	592.1	492.1
67.5°	557.5	538.3	484.4	430.6	415.2
70°	453.7	430.6	411.4	353.7	338.3
72.5°	361.4	338.3	311.4	280.7	269.1
75°	273.0	253.8	238.4	226.8	249.9
77.5°	188.4	180.7	169.2	157.6	153.8
80°	123.0	119.2	115.3	111.5	107.7
82.5°	73.1	73.1	73.1	73.1	73.1
85°	38.4	42.3	46.1	50.0	53.8
87.5°	23.1	23.1	26.9	30.8	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)