

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: P561192

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561192
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-LD4-1STD-35-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2351.0 lumens
Efficiency: N/A
Efficacy: 70.6 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

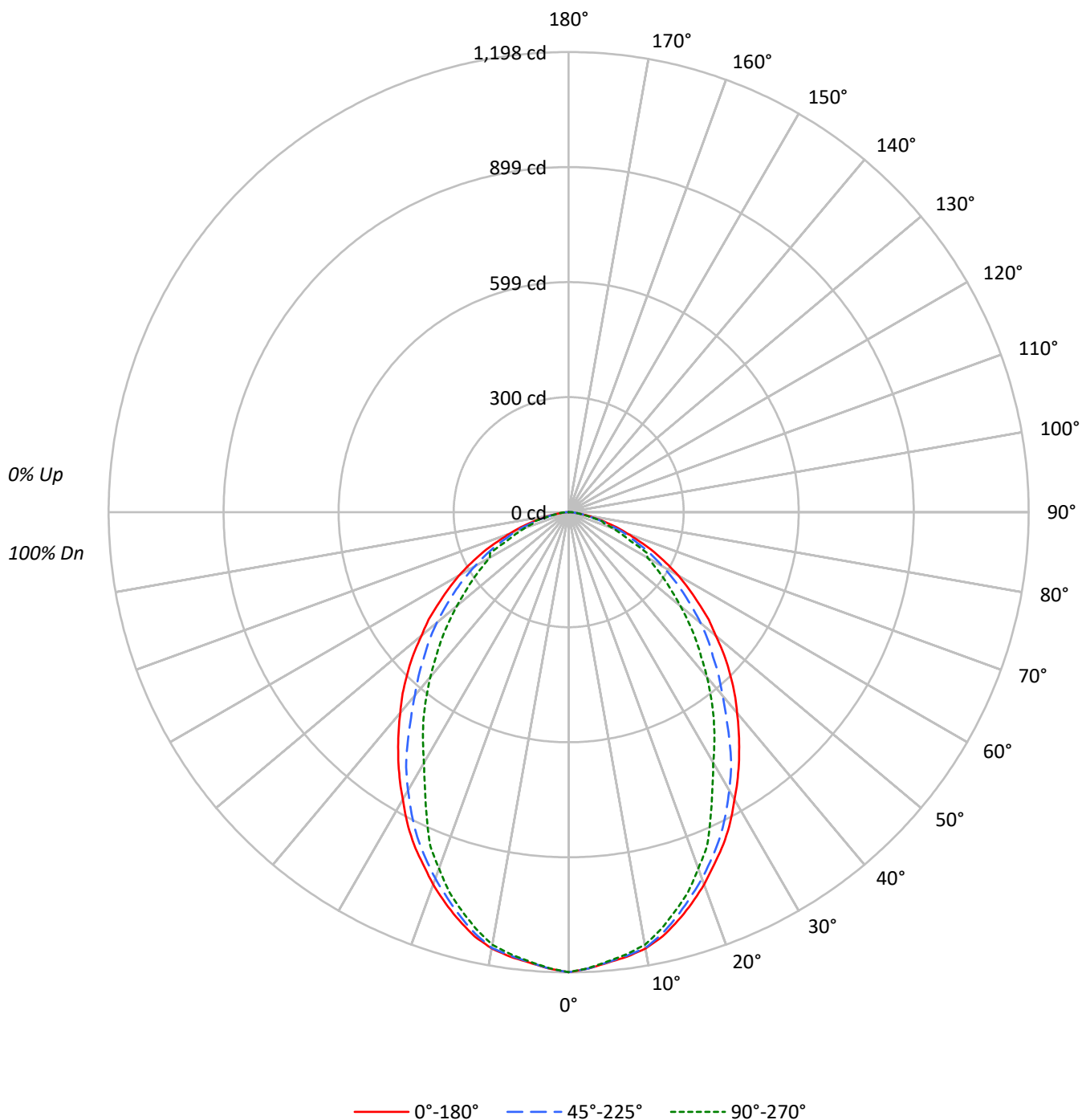
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561192

CATALOG NUMBER: FSR-12-4-LD4-1STD-35-UNV-93-88-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561192

CATALOG NUMBER: FSR-12-4-LD4-1STD-35-UNV-93-88-EDD-90

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			
RW	70	50	30	10	70	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°	3223	3223	3223
5°	3179	3175	3171
10°	3151	3148	3125
15°	3066	3036	2993
20°	2954	2906	2827
25°	2832	2771	2598
30°	2684	2598	2340
35°	2542	2401	2165
40°	2398	2188	1970
45°	2260	2023	1781
50°	2092	1878	1588
55°	1936	1702	1422
60°	1773	1520	1274
65°	1561	1331	1128
70°	1286	1165	958
75°	1022	892	936
80°	687	643	601
85°	426	513	599

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2260 cd/sqm

TEST NUMBER: P561192

CATALOG NUMBER: FSR-12-4-LD4-1STD-35-UNV-93-88-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.5	4.7
10°-20°	305.9	13.0
20°-30°	423.6	18.0
30°-40°	451.6	19.2
40°-50°	412.0	17.5
50°-60°	322.8	13.7
60°-70°	210.4	8.9
70°-80°	93.2	4.0
80°-90°	20.0	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°	841.0	35.8
0°-40°	1292.6	55.0
0°-60°	2027.4	86.2
0°-90°	2351.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2351.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1198	1198	1198	1198	1198	
5°	1177	1175	1175	1174	1174	112
15°	1101	1101	1090	1078	1074	309
25°	954	948	933	900	875	438
35°	774	768	731	676	659	484
45°	594	582	532	487	468	458
55°	413	400	363	320	303	370
65°	245	231	209	213	177	242
75°	98	91	86	82	90	105
85°	14	15	17	18	19	19
90°	0	0	0	0	0	

TEST NUMBER: P561192

CATALOG NUMBER: FSR-12-4-LD4-1STD-35-UNV-93-88-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1197.6	1197.6	1197.6	1197.6	1197.6
2.5°	1189.3	1189.3	1189.3	1187.9	1187.9
5°	1176.8	1175.4	1175.4	1174.0	1174.0
7.5°	1167.1	1165.7	1164.3	1163.0	1160.2
10°	1153.3	1153.3	1151.9	1145.0	1143.6
12.5°	1131.1	1129.7	1124.2	1114.5	1111.7
15°	1100.7	1100.7	1089.6	1078.5	1074.4
17.5°	1067.4	1066.0	1052.2	1041.1	1035.6
20°	1031.4	1028.7	1014.8	996.8	987.1
22.5°	991.3	991.3	974.7	951.1	941.4
25°	953.9	948.4	933.1	899.9	875.0
27.5°	911.0	902.7	886.1	839.0	809.9
30°	863.9	859.8	836.2	775.3	753.2
32.5°	819.6	812.7	787.8	724.1	706.1
35°	773.9	768.4	731.0	675.6	659.0
37.5°	728.2	721.3	674.2	629.9	609.2
40°	682.5	674.2	623.0	582.9	560.7
42.5°	639.6	628.6	578.7	535.8	510.9
45°	593.9	581.5	531.6	487.3	468.0
47.5°	548.3	537.2	491.5	445.8	423.6
50°	499.8	490.1	448.6	402.9	379.3
52.5°	459.6	444.4	404.3	358.6	339.2
55°	412.6	400.1	362.7	319.8	303.2
57.5°	369.7	357.2	322.6	282.4	268.6
60°	329.5	311.5	282.4	247.8	236.7
62.5°	285.2	271.4	246.4	217.4	231.2
65°	245.1	231.2	209.1	213.2	177.2
67.5°	200.7	193.8	174.4	155.1	149.5
70°	163.4	155.1	148.1	127.4	121.8
72.5°	130.1	121.8	112.1	101.1	96.9
75°	98.3	91.4	85.8	81.7	90.0
77.5°	67.8	65.1	60.9	56.8	55.4
80°	44.3	42.9	41.5	40.1	38.8
82.5°	26.3	26.3	26.3	26.3	26.3
85°	13.8	15.2	16.6	18.0	19.4
87.5°	8.3	8.3	9.7	11.1	12.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)