

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: P561825

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561825
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-93-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6723.0 lumens
Efficiency: N/A
Efficacy: 100.9 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

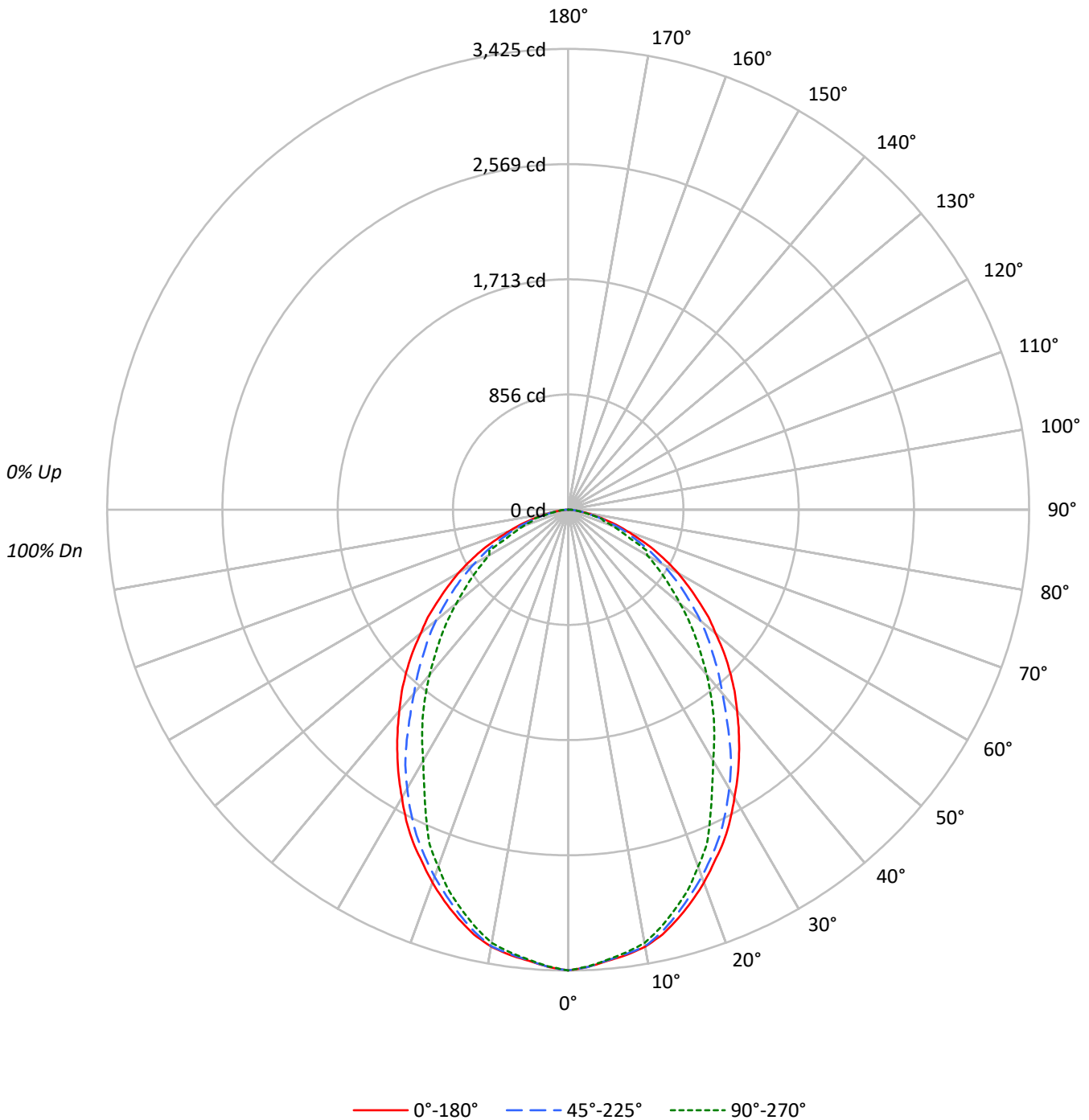
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561825

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561825

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-84-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	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°	9216	9216	9216
5°	9090	9080	9069
10°	9011	9001	8936
15°	8769	8680	8559
20°	8446	8310	8084
25°	8099	7923	7429
30°	7677	7430	6692
35°	7270	6867	6191
40°	6856	6258	5632
45°	6463	5786	5093
50°	5983	5370	4541
55°	5535	4867	4068
60°	5071	4347	3644
65°	4462	3806	3227
70°	3676	3333	2741
75°	2923	2552	2675
80°	1963	1841	1719
85°	1223	1467	1711

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6463 cd/sqm



TEST NUMBER: P561825

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	318.8	4.7
10°-20°	874.9	13.0
20°-30°	1211.2	18.0
30°-40°	1291.5	19.2
40°-50°	1178.2	17.5
50°-60°	923.1	13.7
60°-70°	601.6	8.9
70°-80°	266.5	4.0
80°-90°	57.2	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°	2404.9	35.8
0°-40°	3696.4	55.0
0°-60°	5797.7	86.2
0°-90°	6723.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6723.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3425	3425	3425	3425	3425	
5°	3365	3361	3361	3357	3357	319
15°	3148	3148	3116	3084	3072	885
25°	2728	2712	2668	2573	2502	1252
35°	2213	2197	2090	1932	1884	1384
45°	1698	1663	1520	1394	1338	1308
55°	1180	1144	1037	914	867	1058
65°	701	661	598	610	507	691
75°	281	261	246	234	257	301
85°	40	44	48	52	55	55
90°	0	0	0	0	0	



TEST NUMBER: P561825

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3424.6	3424.6	3424.6	3424.6	3424.6
2.5°	3400.9	3400.9	3400.9	3396.9	3396.9
5°	3365.2	3361.3	3361.3	3357.3	3357.3
7.5°	3337.5	3333.5	3329.6	3325.6	3317.7
10°	3297.9	3297.9	3294.0	3274.2	3270.2
12.5°	3234.6	3230.6	3214.8	3187.1	3179.1
15°	3147.5	3147.5	3115.8	3084.1	3072.2
17.5°	3052.5	3048.5	3008.9	2977.2	2961.4
20°	2949.5	2941.6	2902.0	2850.5	2822.8
22.5°	2834.7	2834.7	2787.2	2719.9	2692.2
25°	2727.8	2712.0	2668.4	2573.4	2502.1
27.5°	2605.1	2581.3	2533.8	2399.2	2316.1
30°	2470.5	2458.6	2391.3	2217.1	2153.7
32.5°	2343.8	2324.0	2252.7	2070.6	2019.1
35°	2213.1	2197.3	2090.4	1932.0	1884.5
37.5°	2082.5	2062.7	1928.1	1801.4	1742.0
40°	1951.8	1928.1	1781.6	1666.8	1603.4
42.5°	1829.1	1797.4	1654.9	1532.2	1460.9
45°	1698.4	1662.8	1520.3	1393.6	1338.2
47.5°	1567.8	1536.1	1405.5	1274.8	1211.5
50°	1429.2	1401.5	1282.7	1152.1	1084.8
52.5°	1314.4	1270.9	1156.1	1025.4	970.0
55°	1179.8	1144.2	1037.3	914.5	867.0
57.5°	1057.1	1021.4	922.5	807.7	768.1
60°	942.3	890.8	807.7	708.7	677.0
62.5°	815.6	776.0	704.7	621.6	661.2
65°	700.8	661.2	597.8	609.7	506.8
67.5°	574.1	554.3	498.8	443.4	427.6
70°	467.2	443.4	423.6	364.2	348.4
72.5°	372.2	348.4	320.7	289.0	277.1
75°	281.1	261.3	245.5	233.6	257.3
77.5°	194.0	186.1	174.2	162.3	158.4
80°	126.7	122.7	118.8	114.8	110.9
82.5°	75.2	75.2	75.2	75.2	75.2
85°	39.6	43.5	47.5	51.5	55.4
87.5°	23.8	23.8	27.7	31.7	35.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)