

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: P561517

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561517
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-50-UNV-93-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

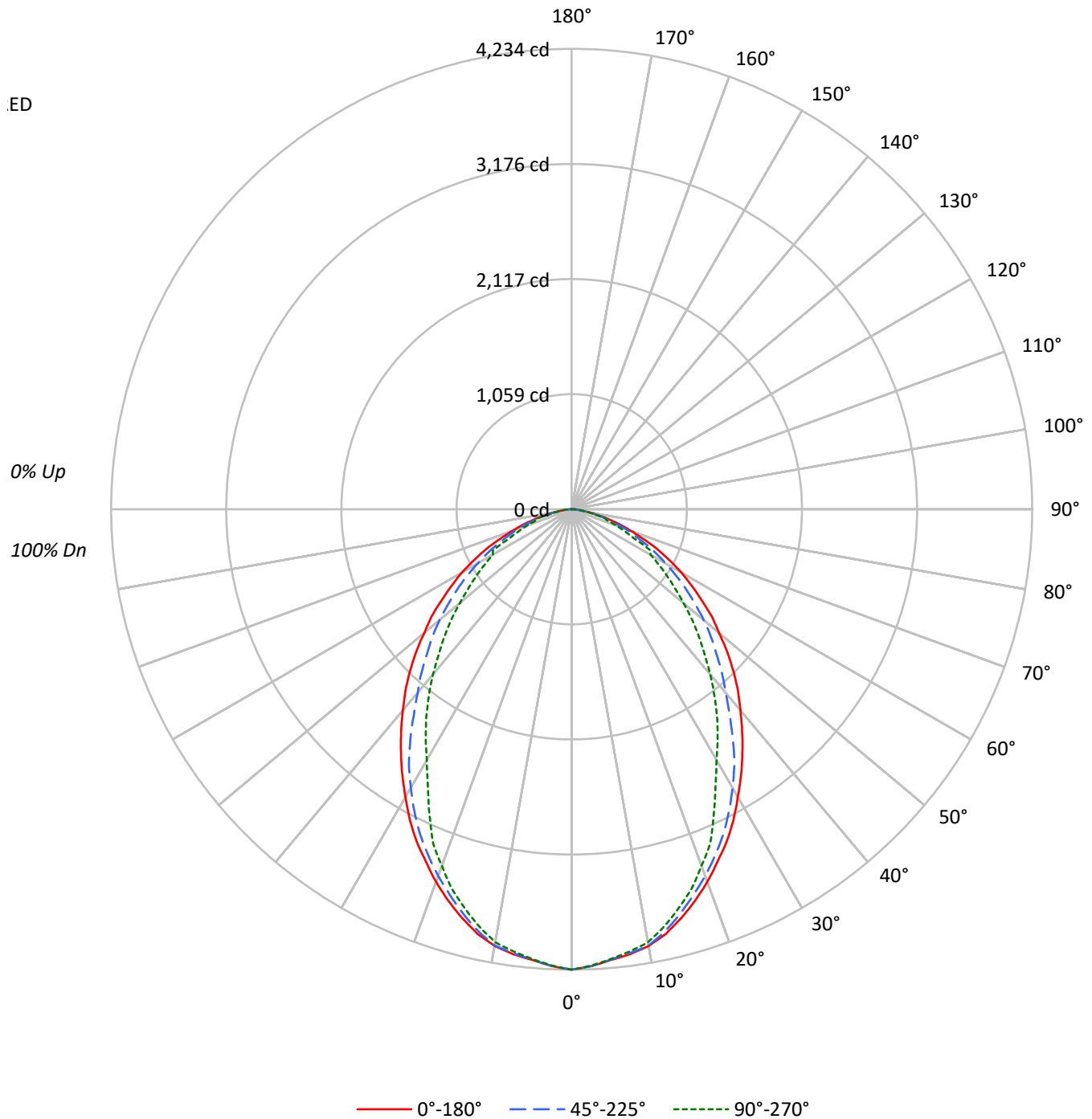
Lumens per Lamp: N/A
Luminaire Lumens: 8312.0 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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



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Luminous Intensity Polar Plot





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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°	11394	11394	11394
5°	11239	11226	11212
10°	11141	11128	11048
15°	10841	10732	10582
20°	10443	10275	9994
25°	10014	9796	9185
30°	9491	9187	8274
35°	8989	8490	7654
40°	8477	7738	6964
45°	7991	7153	6296
50°	7397	6639	5615
55°	6844	6016	5029
60°	6270	5374	4505
65°	5517	4706	3989
70°	4544	4120	3389
75°	3613	3156	3308
80°	2427	2275	2125
85°	1510	1812	2115

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7991 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	394.1	4.7
10°-20°	1081.7	13.0
20°-30°	1497.5	18.0
30°-40°	1596.8	19.2
40°-50°	1456.7	17.5
50°-60°	1141.2	13.7
60°-70°	743.8	8.9
70°-80°	329.5	4.0
80°-90°	70.7	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°	2973.3	35.8
0°-40°	4570.0	55.0
0°-60°	7167.9	86.2
0°-90°	8312.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8312.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4234	4234	4234	4234	4234	
5°	4161	4156	4156	4151	4151	395
15°	3891	3891	3852	3813	3798	1094
25°	3372	3353	3299	3182	3094	1548
35°	2736	2717	2584	2389	2330	1711
45°	2100	2056	1880	1723	1654	1618
55°	1459	1415	1282	1131	1072	1308
65°	866	817	739	754	626	854
75°	348	323	304	289	318	372
85°	49	54	59	64	68	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4234.0	4234.0	4234.0	4234.0	4234.0
2.5°	4204.7	4204.7	4204.7	4199.8	4199.8
5°	4160.6	4155.7	4155.7	4150.8	4150.8
7.5°	4126.3	4121.4	4116.5	4111.7	4101.9
10°	4077.4	4077.4	4072.5	4048.0	4043.1
12.5°	3999.1	3994.2	3974.6	3940.3	3930.5
15°	3891.4	3891.4	3852.2	3813.1	3798.4
17.5°	3773.9	3769.0	3720.1	3680.9	3661.3
20°	3646.6	3636.9	3587.9	3524.3	3490.0
22.5°	3504.7	3504.7	3446.0	3362.7	3328.5
25°	3372.5	3353.0	3299.1	3181.6	3093.5
27.5°	3220.8	3191.4	3132.7	2966.3	2863.5
30°	3054.4	3039.7	2956.5	2741.1	2662.8
32.5°	2897.7	2873.3	2785.2	2560.0	2496.4
35°	2736.2	2716.6	2584.5	2388.7	2329.9
37.5°	2574.7	2550.2	2383.8	2227.1	2153.7
40°	2413.1	2383.8	2202.7	2060.7	1982.4
42.5°	2261.4	2222.2	2046.0	1894.3	1806.2
45°	2099.9	2055.8	1879.6	1723.0	1654.5
47.5°	1938.3	1899.2	1737.7	1576.1	1497.8
50°	1767.0	1732.8	1585.9	1424.4	1341.2
52.5°	1625.1	1571.2	1429.3	1267.8	1199.2
55°	1458.7	1414.6	1282.4	1130.7	1072.0
57.5°	1306.9	1262.9	1140.5	998.5	949.6
60°	1165.0	1101.3	998.5	876.2	837.0
62.5°	1008.3	959.4	871.3	768.5	817.4
65°	866.4	817.4	739.1	753.8	626.5
67.5°	709.7	685.3	616.7	548.2	528.6
70°	577.6	548.2	523.7	450.3	430.7
72.5°	460.1	430.7	396.5	357.3	342.6
75°	347.5	323.1	303.5	288.8	318.2
77.5°	239.8	230.1	215.4	200.7	195.8
80°	156.6	151.7	146.8	141.9	137.1
82.5°	93.0	93.0	93.0	93.0	93.0
85°	48.9	53.8	58.7	63.6	68.5
87.5°	29.4	29.4	34.3	39.2	44.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)