

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: P590930

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-93-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590930
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-35-UNV-93-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7838.0 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

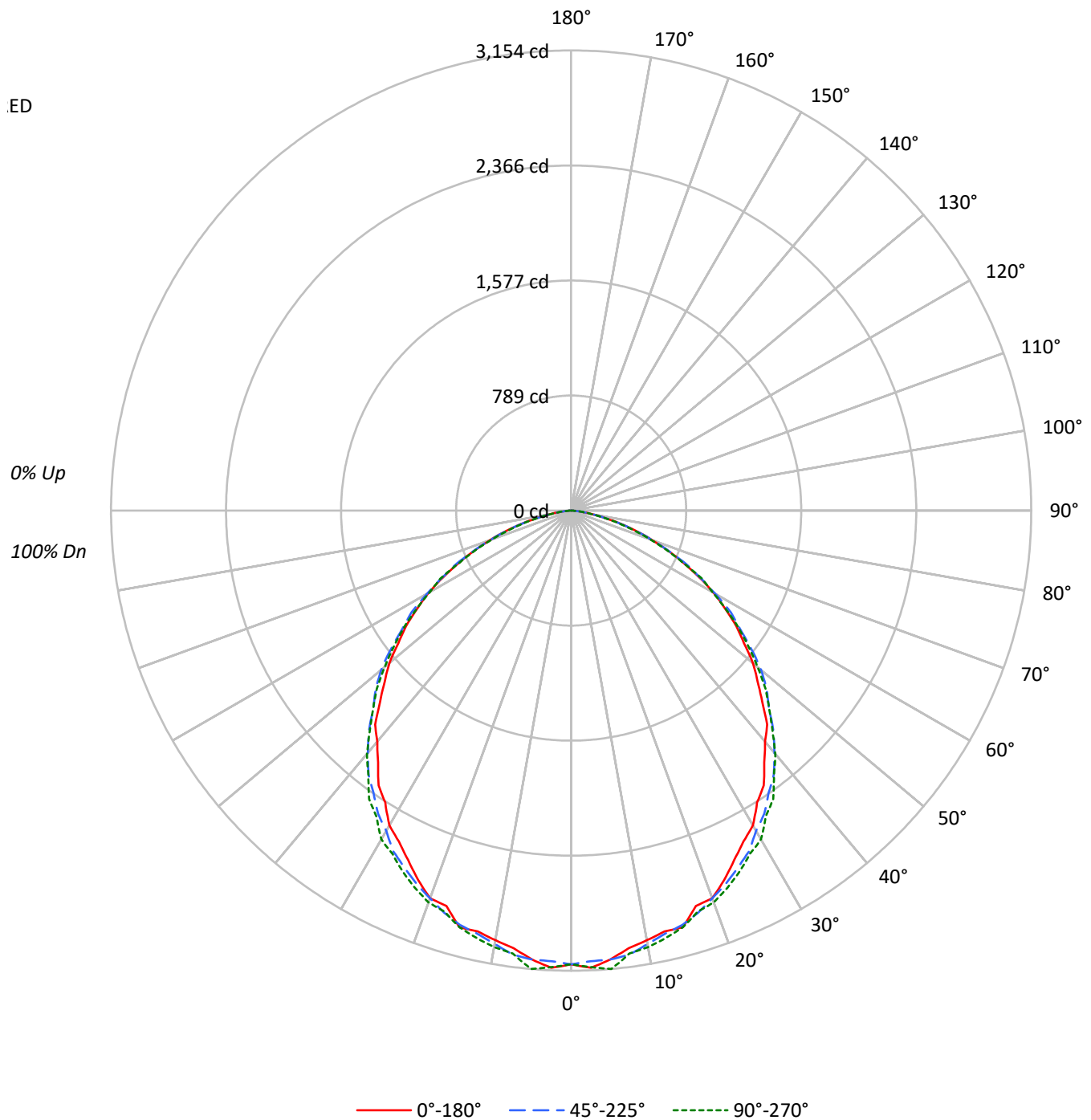
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8369	8369	8369
5°	8341	8344	8520
10°	8172	8243	8301
15°	8237	8192	8238
20°	8097	8097	8184
25°	7848	8020	8108
30°	7741	7877	8086
35°	7558	7756	7931
40°	7264	7614	7648
45°	7045	7295	7306
50°	6813	7121	6985
55°	6492	6618	6571
60°	6070	6131	6021
65°	5413	5550	5374
70°	4644	4660	4530
75°	3679	3670	3528
80°	2464	2396	2303
85°	1340	1328	1241

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7483 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.5	3.7
10°-20°	829.1	10.6
20°-30°	1242.1	15.8
30°-40°	1472.2	18.8
40°-50°	1474.9	18.8
50°-60°	1252.0	16.0
60°-70°	844.1	10.8
70°-80°	370.9	4.7
80°-90°	60.3	0.8
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°	2363.7	30.2
0°-40°	3835.9	48.9
0°-60°	6562.8	83.7
0°-90°	7838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7838.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3110	3110	3110	3110	3110	
5°	3088	3081	3089	3080	3154	291
15°	2956	2922	2940	2956	2957	824
25°	2643	2658	2701	2736	2731	1222
35°	2301	2308	2361	2416	2414	1429
45°	1851	1886	1917	1966	1920	1432
55°	1384	1374	1411	1401	1401	1231
65°	850	839	872	838	844	845
75°	354	346	353	328	339	379
85°	43	42	43	42	40	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3109.9	3109.9	3109.9	3109.9	3109.9
2.5°	3136.8	3113.1	3091.0	3116.7	3132.4
5°	3087.8	3080.6	3089.0	3079.8	3154.1
7.5°	3024.4	3052.1	3068.2	3058.1	3062.5
10°	2990.7	2981.0	3016.8	3041.7	3038.0
12.5°	2954.5	2969.0	2971.0	2997.9	3000.3
15°	2956.5	2922.4	2940.5	2955.7	2956.9
17.5°	2841.7	2878.6	2891.1	2926.0	2882.6
20°	2827.6	2800.7	2827.6	2863.4	2857.8
22.5°	2741.3	2711.2	2769.0	2800.7	2798.7
25°	2643.3	2657.8	2701.2	2736.5	2730.9
27.5°	2557.4	2574.3	2636.1	2684.7	2653.4
30°	2491.1	2482.7	2534.9	2578.3	2602.4
32.5°	2372.7	2403.2	2464.2	2507.2	2484.3
35°	2300.8	2307.6	2361.0	2415.7	2414.1
37.5°	2175.1	2206.9	2281.9	2297.2	2283.2
40°	2067.9	2099.6	2167.5	2184.0	2177.1
42.5°	1988.8	1994.4	2052.7	2071.5	2041.4
45°	1851.1	1885.6	1916.9	1966.3	1919.8
47.5°	1733.8	1749.9	1817.4	1830.6	1806.1
50°	1627.4	1633.1	1700.9	1684.5	1668.4
52.5°	1493.7	1517.4	1555.6	1552.4	1533.5
55°	1383.7	1374.5	1410.6	1401.0	1400.6
57.5°	1251.6	1267.7	1297.4	1282.1	1257.6
60°	1127.9	1128.3	1139.2	1121.9	1118.7
62.5°	990.2	995.0	997.4	976.1	1010.7
65°	850.1	838.8	871.7	838.4	844.0
67.5°	721.2	726.8	723.6	702.7	710.7
70°	590.3	597.5	592.3	568.6	575.8
72.5°	470.6	461.8	467.4	437.7	451.3
75°	353.8	346.5	353.0	328.1	339.3
77.5°	240.9	246.5	242.5	229.3	236.9
80°	159.0	154.6	154.6	147.0	148.6
82.5°	92.8	88.3	87.1	84.7	88.3
85°	43.4	42.2	43.0	41.8	40.2
87.5°	15.7	16.1	16.1	15.3	14.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)