

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: P590942

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590942
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-40-UNV-81-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7340.0 lumens
Efficiency: N/A
Efficacy: 110.2 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

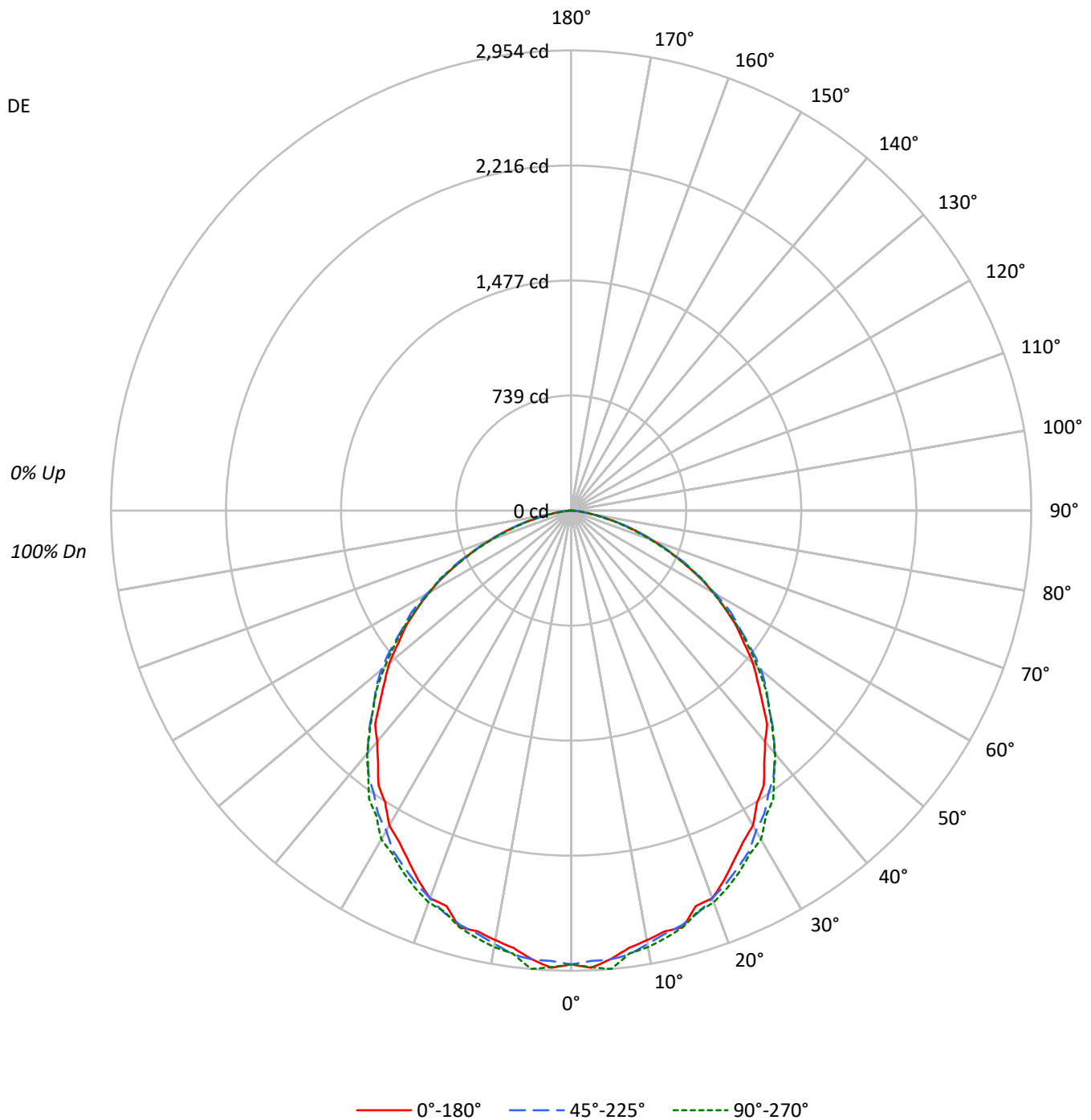
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7837	7837	7837
5°	7811	7814	7979
10°	7653	7720	7774
15°	7713	7671	7714
20°	7583	7583	7664
25°	7350	7511	7593
30°	7249	7376	7572
35°	7078	7263	7427
40°	6803	7130	7162
45°	6597	6832	6842
50°	6380	6668	6541
55°	6079	6198	6153
60°	5685	5741	5638
65°	5068	5198	5033
70°	4349	4364	4242
75°	3445	3436	3303
80°	2307	2244	2156
85°	1254	1241	1161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7008 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.9	3.7
10°-20°	776.4	10.6
20°-30°	1163.2	15.8
30°-40°	1378.6	18.8
40°-50°	1381.2	18.8
50°-60°	1172.4	16.0
60°-70°	790.4	10.8
70°-80°	347.3	4.7
80°-90°	56.4	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°	2213.6	30.2
0°-40°	3592.2	48.9
0°-60°	6145.8	83.7
0°-90°	7340.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7340.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2912	2912	2912	2912	2912	
5°	2892	2885	2893	2884	2954	273
15°	2769	2737	2754	2768	2769	771
25°	2475	2489	2530	2563	2557	1144
35°	2155	2161	2211	2262	2261	1338
45°	1734	1766	1795	1841	1798	1341
55°	1296	1287	1321	1312	1312	1153
65°	796	786	816	785	790	792
75°	331	324	330	307	318	355
85°	41	40	40	39	38	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2912.3	2912.3	2912.3	2912.3	2912.3
2.5°	2937.5	2915.3	2894.7	2918.7	2933.4
5°	2891.6	2884.9	2892.8	2884.1	2953.7
7.5°	2832.2	2858.2	2873.2	2863.8	2868.0
10°	2800.6	2791.6	2825.1	2848.4	2845.0
12.5°	2766.8	2780.3	2782.2	2807.4	2809.7
15°	2768.7	2736.7	2753.6	2767.9	2769.1
17.5°	2661.1	2695.7	2707.4	2740.1	2699.5
20°	2648.0	2622.8	2648.0	2681.4	2676.2
22.5°	2567.1	2538.9	2593.1	2622.8	2620.9
25°	2475.4	2488.9	2529.5	2562.6	2557.4
27.5°	2394.9	2410.7	2468.6	2514.1	2484.8
30°	2332.9	2325.0	2373.9	2414.5	2437.0
32.5°	2221.9	2250.5	2307.7	2347.9	2326.5
35°	2154.6	2161.0	2211.0	2262.2	2260.7
37.5°	2036.9	2066.6	2137.0	2151.2	2138.1
40°	1936.5	1966.2	2029.8	2045.2	2038.8
42.5°	1862.5	1867.7	1922.2	1939.9	1911.7
45°	1733.5	1765.8	1795.2	1841.4	1797.8
47.5°	1623.7	1638.7	1701.9	1714.3	1691.4
50°	1524.0	1529.3	1592.8	1577.4	1562.4
52.5°	1398.8	1421.0	1456.7	1453.7	1436.0
55°	1295.8	1287.1	1321.0	1312.0	1311.6
57.5°	1172.1	1187.1	1214.9	1200.7	1177.7
60°	1056.3	1056.6	1066.8	1050.6	1047.6
62.5°	927.3	931.8	934.1	914.1	946.5
65°	796.0	785.5	816.4	785.1	790.4
67.5°	675.3	680.6	677.6	658.0	665.6
70°	552.8	559.5	554.6	532.5	539.2
72.5°	440.7	432.4	437.7	409.9	422.7
75°	331.3	324.5	330.5	307.2	317.7
77.5°	225.6	230.9	227.1	214.7	221.9
80°	148.9	144.8	144.8	137.6	139.1
82.5°	86.9	82.7	81.6	79.3	82.7
85°	40.6	39.5	40.2	39.1	37.6
87.5°	14.7	15.0	15.0	14.3	13.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)