

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: P590941

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-81-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590941
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-81-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7489.0 lumens
Efficiency: N/A
Efficacy: 112.4 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

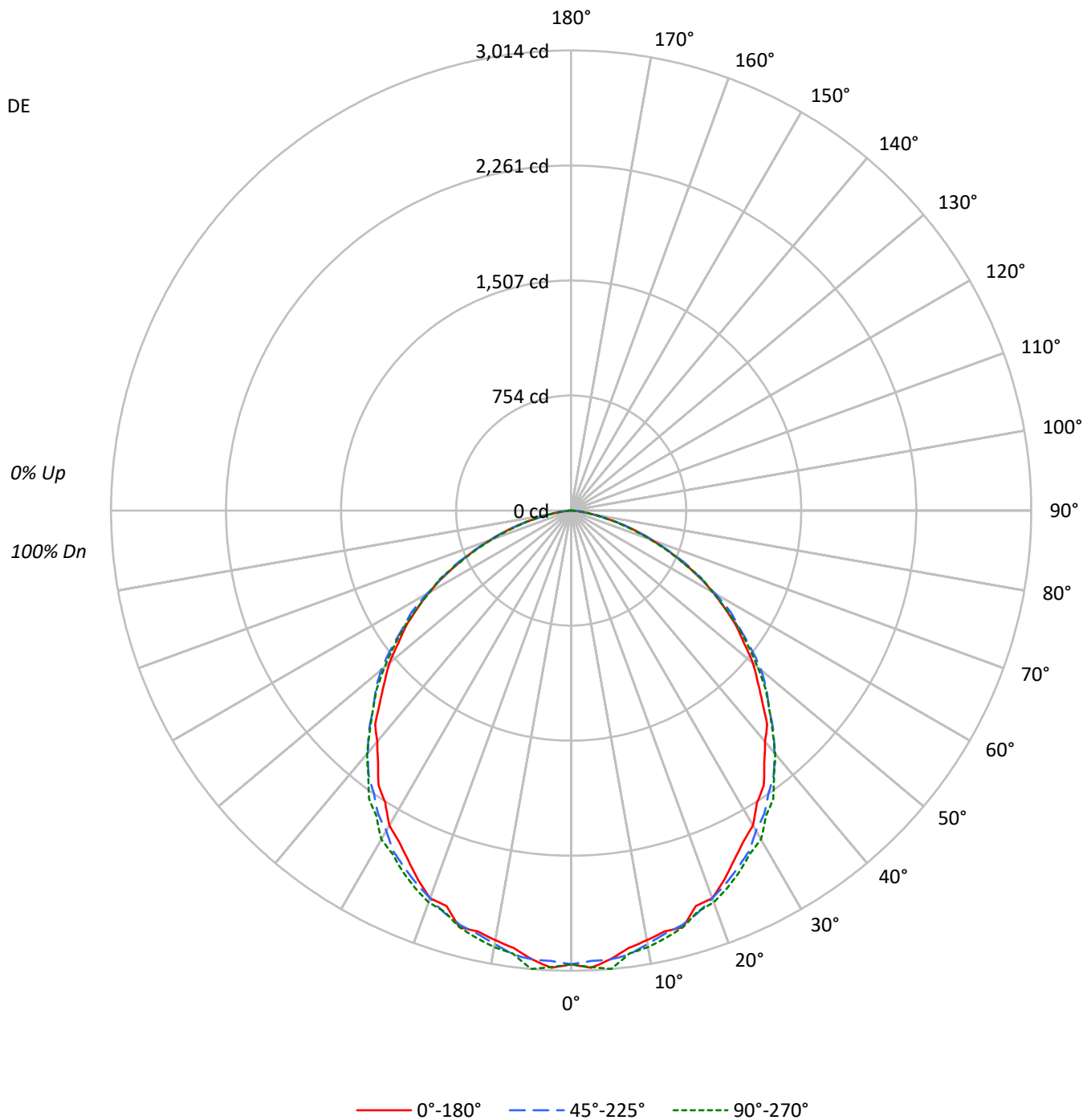
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7996	7996	7996
5°	7970	7973	8141
10°	7808	7876	7932
15°	7870	7827	7871
20°	7737	7737	7819
25°	7499	7663	7747
30°	7396	7526	7726
35°	7222	7411	7577
40°	6941	7275	7307
45°	6731	6970	6981
50°	6510	6804	6674
55°	6203	6323	6278
60°	5800	5858	5753
65°	5172	5303	5135
70°	4437	4452	4329
75°	3514	3506	3371
80°	2354	2289	2201
85°	1278	1269	1186

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7150 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.5	3.7
10°-20°	792.2	10.6
20°-30°	1186.8	15.8
30°-40°	1406.6	18.8
40°-50°	1409.2	18.8
50°-60°	1196.2	16.0
60°-70°	806.5	10.8
70°-80°	354.4	4.7
80°-90°	57.6	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°	2258.5	30.2
0°-40°	3665.1	48.9
0°-60°	6270.6	83.7
0°-90°	7489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7489.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2971	2971	2971	2971	2971	
5°	2950	2943	2952	2943	3014	278
15°	2825	2792	2810	2824	2825	787
25°	2526	2539	2581	2615	2609	1168
35°	2198	2205	2256	2308	2307	1365
45°	1769	1802	1832	1879	1834	1368
55°	1322	1313	1348	1339	1338	1176
65°	812	802	833	801	806	808
75°	338	331	337	314	324	362
85°	41	40	41	40	38	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2971.4	2971.4	2971.4	2971.4	2971.4
2.5°	2997.2	2974.5	2953.4	2978.0	2992.9
5°	2950.3	2943.4	2951.5	2942.7	3013.6
7.5°	2889.7	2916.2	2931.5	2922.0	2926.2
10°	2857.5	2848.3	2882.4	2906.2	2902.8
12.5°	2823.0	2836.8	2838.7	2864.4	2866.7
15°	2824.9	2792.3	2809.5	2824.1	2825.3
17.5°	2715.2	2750.5	2762.4	2795.7	2754.3
20°	2701.7	2676.0	2701.7	2735.9	2730.5
22.5°	2619.2	2590.5	2645.7	2676.0	2674.1
25°	2525.6	2539.4	2580.9	2614.6	2609.3
27.5°	2443.5	2459.6	2518.7	2565.2	2535.2
30°	2380.2	2372.2	2422.0	2463.5	2486.5
32.5°	2267.0	2296.2	2354.5	2395.6	2373.7
35°	2198.4	2204.9	2255.9	2308.1	2306.6
37.5°	2078.3	2108.6	2180.3	2194.9	2181.5
40°	1975.8	2006.2	2071.0	2086.7	2080.2
42.5°	1900.3	1905.6	1961.3	1979.3	1950.5
45°	1768.7	1801.7	1831.6	1878.8	1834.3
47.5°	1656.6	1672.0	1736.4	1749.1	1725.7
50°	1555.0	1560.3	1625.2	1609.5	1594.1
52.5°	1427.2	1449.9	1486.3	1483.2	1465.2
55°	1322.1	1313.3	1347.8	1338.6	1338.2
57.5°	1195.9	1211.2	1239.6	1225.0	1201.6
60°	1077.7	1078.1	1088.4	1071.9	1068.9
62.5°	946.1	950.7	953.0	932.7	965.7
65°	812.2	801.5	832.9	801.1	806.5
67.5°	689.1	694.4	691.4	671.4	679.1
70°	564.0	570.9	565.9	543.3	550.2
72.5°	449.6	441.2	446.6	418.2	431.2
75°	338.0	331.1	337.2	313.5	324.2
77.5°	230.2	235.6	231.7	219.1	226.4
80°	151.9	147.7	147.7	140.4	142.0
82.5°	88.6	84.4	83.3	81.0	84.4
85°	41.4	40.3	41.1	39.9	38.4
87.5°	15.0	15.3	15.3	14.6	13.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)