

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: P590953

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-82-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590953
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-82-88-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6190.0 lumens
Efficiency: N/A
Efficacy: 92.9 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

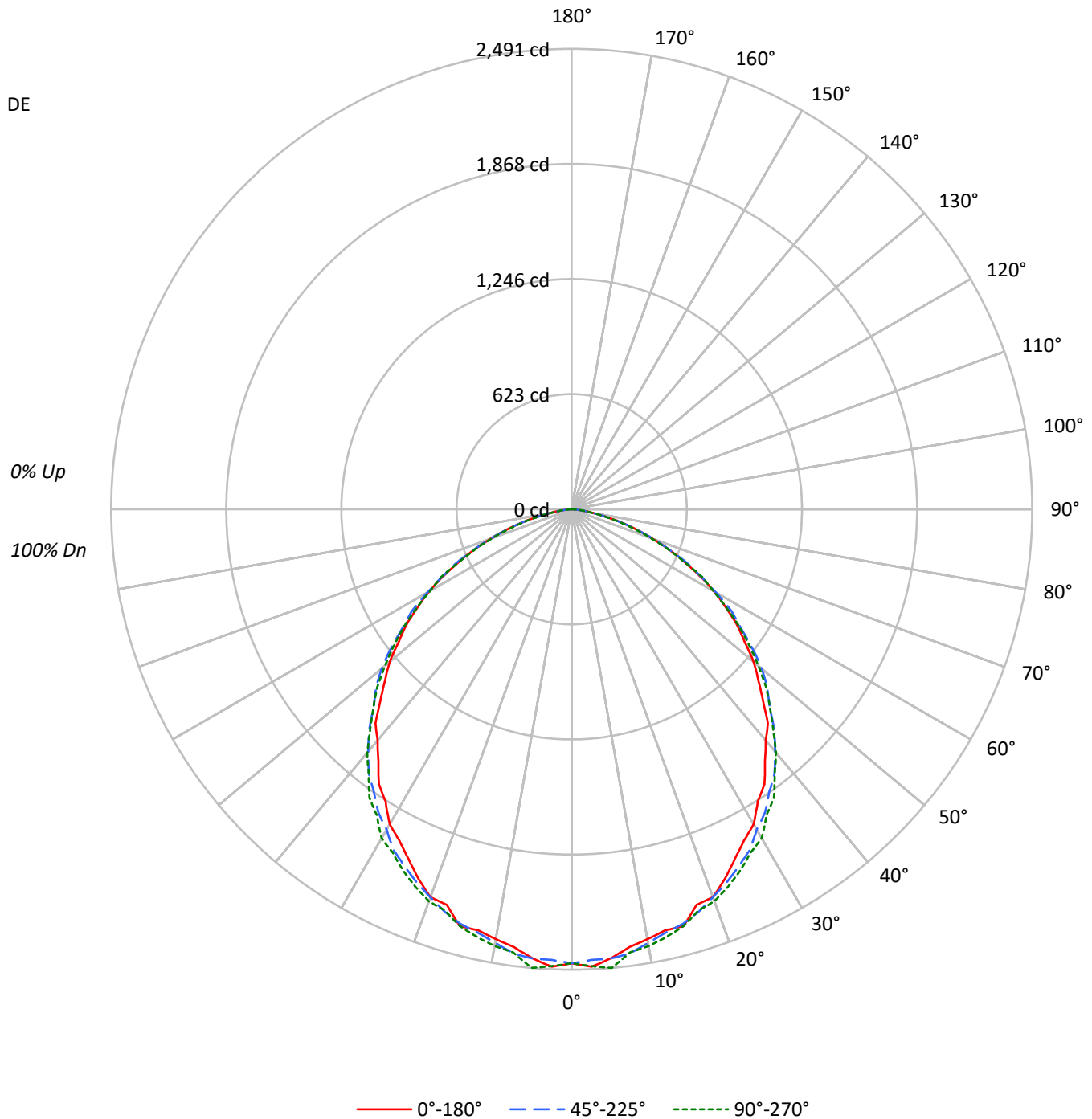
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6609	6609	6609
5°	6587	6590	6729
10°	6454	6510	6556
15°	6505	6469	6506
20°	6395	6395	6463
25°	6198	6334	6404
30°	6113	6220	6386
35°	5969	6125	6263
40°	5737	6013	6040
45°	5563	5761	5770
50°	5381	5624	5516
55°	5127	5226	5189
60°	4794	4842	4755
65°	4274	4384	4245
70°	3668	3680	3578
75°	2905	2898	2786
80°	1946	1892	1818
85°	1056	1047	979

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5910 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.0	3.7
10°-20°	654.8	10.6
20°-30°	981.0	15.8
30°-40°	1162.6	18.8
40°-50°	1164.8	18.8
50°-60°	988.7	16.0
60°-70°	666.6	10.8
70°-80°	292.9	4.7
80°-90°	47.6	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°	1866.8	30.2
0°-40°	3029.4	48.9
0°-60°	5182.9	83.7
0°-90°	6190.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6190.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2456	2456	2456	2456	2456	
5°	2439	2433	2440	2432	2491	230
15°	2335	2308	2322	2334	2335	651
25°	2088	2099	2133	2161	2157	965
35°	1817	1822	1865	1908	1906	1128
45°	1462	1489	1514	1553	1516	1131
55°	1093	1086	1114	1106	1106	972
65°	671	662	688	662	667	668
75°	279	274	279	259	268	299
85°	34	33	34	33	32	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2456.0	2456.0	2456.0	2456.0	2456.0
2.5°	2477.3	2458.6	2441.1	2461.4	2473.8
5°	2438.6	2432.9	2439.5	2432.3	2490.9
7.5°	2388.5	2410.4	2423.1	2415.1	2418.6
10°	2361.9	2354.2	2382.5	2402.1	2399.3
12.5°	2333.3	2344.7	2346.3	2367.6	2369.5
15°	2334.9	2307.9	2322.2	2334.3	2335.2
17.5°	2244.2	2273.4	2283.2	2310.8	2276.6
20°	2233.1	2211.9	2233.1	2261.3	2256.9
22.5°	2164.9	2141.1	2186.8	2211.9	2210.3
25°	2087.6	2099.0	2133.2	2161.1	2156.7
27.5°	2019.7	2033.0	2081.8	2120.2	2095.5
30°	1967.4	1960.7	2001.9	2036.2	2055.2
32.5°	1873.8	1897.9	1946.1	1980.0	1962.0
35°	1817.1	1822.4	1864.6	1907.7	1906.5
37.5°	1717.8	1742.8	1802.1	1814.2	1803.1
40°	1633.1	1658.2	1711.8	1724.8	1719.4
42.5°	1570.7	1575.1	1621.1	1636.0	1612.2
45°	1461.9	1489.2	1513.9	1552.9	1516.1
47.5°	1369.3	1382.0	1435.3	1445.7	1426.4
50°	1285.3	1289.7	1343.3	1330.3	1317.6
52.5°	1179.7	1198.4	1228.5	1226.0	1211.1
55°	1092.8	1085.5	1114.0	1106.4	1106.1
57.5°	988.4	1001.1	1024.6	1012.5	993.2
60°	890.8	891.1	899.6	886.0	883.5
62.5°	782.0	785.8	787.7	770.9	798.2
65°	671.3	662.4	688.5	662.1	666.6
67.5°	569.5	574.0	571.4	554.9	561.3
70°	466.2	471.9	467.7	449.0	454.7
72.5°	371.7	364.7	369.1	345.7	356.4
75°	279.4	273.7	278.7	259.1	268.0
77.5°	190.3	194.7	191.5	181.1	187.1
80°	125.6	122.1	122.1	116.1	117.3
82.5°	73.3	69.8	68.8	66.9	69.8
85°	34.2	33.3	33.9	33.0	31.7
87.5°	12.4	12.7	12.7	12.1	11.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)