

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: P562755

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562755
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-24-4-LD4-2LO-40-UNV-81-85-EDD
Description: 2X4 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

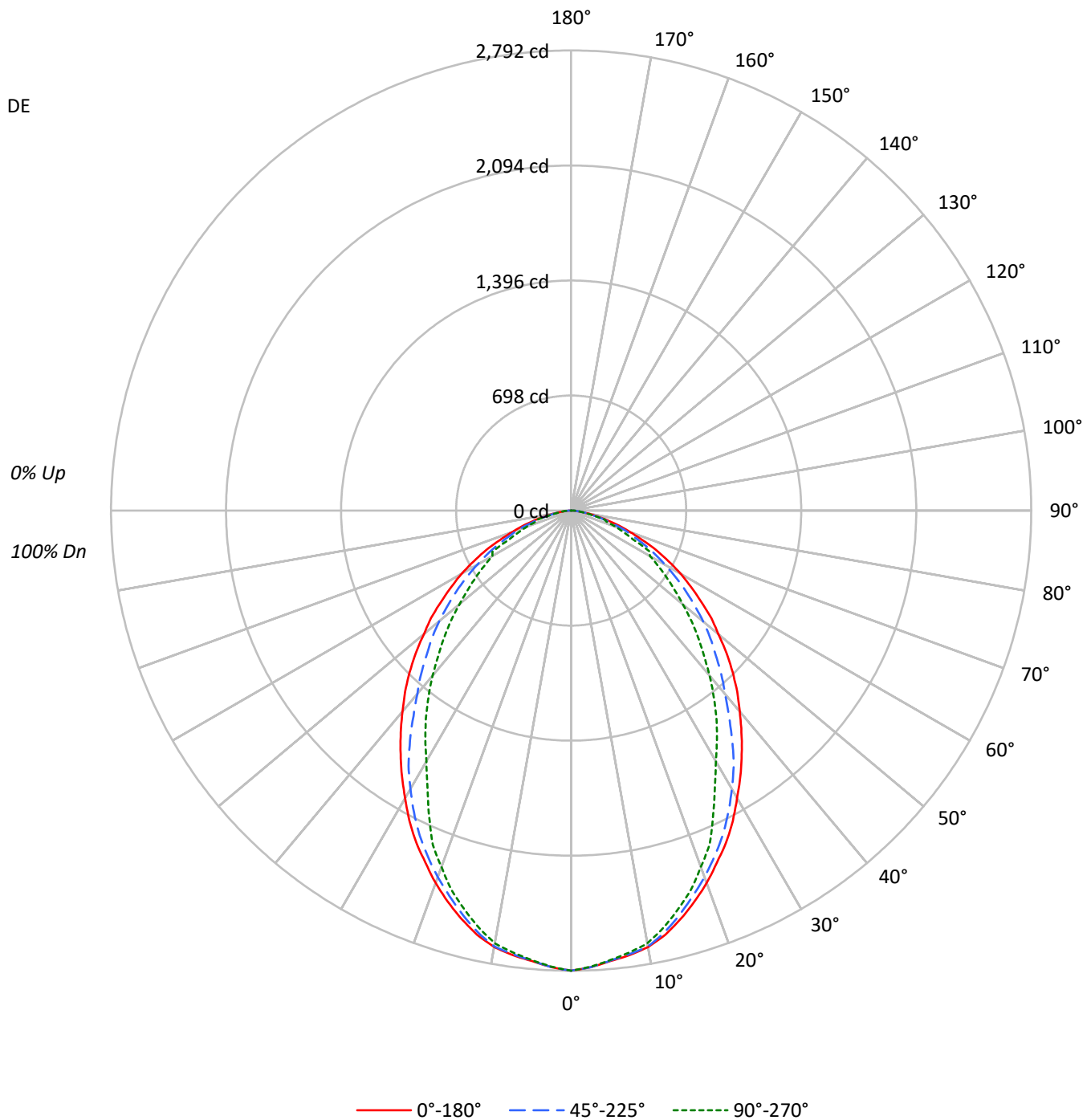
Lumens per Lamp: N/A
Luminaire Lumens: 5481.0 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3756	3756	3756
5°	3705	3701	3697
10°	3673	3669	3643
15°	3574	3538	3489
20°	3443	3388	3295
25°	3302	3230	3028
30°	3129	3029	2728
35°	2964	2799	2524
40°	2795	2551	2296
45°	2635	2358	2076
50°	2439	2189	1851
55°	2256	1984	1658
60°	2067	1772	1485
65°	1819	1552	1315
70°	1498	1359	1117
75°	1192	1040	1091
80°	800	750	700
85°	499	597	698

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2635 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.9	4.7
10°-20°	713.3	13.0
20°-30°	987.5	18.0
30°-40°	1052.9	19.2
40°-50°	960.6	17.5
50°-60°	752.5	13.7
60°-70°	490.5	8.9
70°-80°	217.3	4.0
80°-90°	46.6	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°	1960.6	35.8
0°-40°	3013.5	55.0
0°-60°	4726.6	86.2
0°-90°	5481.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5481.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2792	2792	2792	2792	2792	
5°	2744	2740	2740	2737	2737	260
15°	2566	2566	2540	2514	2505	721
25°	2224	2211	2176	2098	2040	1021
35°	1804	1791	1704	1575	1536	1128
45°	1385	1356	1239	1136	1091	1067
55°	962	933	846	746	707	863
65°	571	539	487	497	413	563
75°	229	213	200	190	210	246
85°	32	36	39	42	45	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2791.9	2791.9	2791.9	2791.9	2791.9
2.5°	2772.6	2772.6	2772.6	2769.4	2769.4
5°	2743.5	2740.3	2740.3	2737.1	2737.1
7.5°	2720.9	2717.7	2714.5	2711.3	2704.8
10°	2688.7	2688.7	2685.4	2669.3	2666.1
12.5°	2637.0	2633.8	2620.9	2598.3	2591.8
15°	2566.0	2566.0	2540.2	2514.4	2504.7
17.5°	2488.5	2485.3	2453.0	2427.2	2414.3
20°	2404.6	2398.2	2365.9	2323.9	2301.3
22.5°	2311.0	2311.0	2272.3	2217.4	2194.8
25°	2223.9	2211.0	2175.5	2098.0	2039.9
27.5°	2123.8	2104.5	2065.7	1956.0	1888.2
30°	2014.1	2004.4	1949.5	1807.5	1755.9
32.5°	1910.8	1894.7	1836.6	1688.1	1646.1
35°	1804.3	1791.4	1704.2	1575.1	1536.4
37.5°	1697.8	1681.6	1571.9	1468.6	1420.2
40°	1591.2	1571.9	1452.5	1358.9	1307.2
42.5°	1491.2	1465.4	1349.2	1249.1	1191.0
45°	1384.7	1355.6	1239.4	1136.1	1091.0
47.5°	1278.2	1252.3	1145.8	1039.3	987.7
50°	1165.2	1142.6	1045.8	939.3	884.4
52.5°	1071.6	1036.1	942.5	836.0	790.8
55°	961.9	932.8	845.7	745.6	706.9
57.5°	861.8	832.7	752.1	658.4	626.2
60°	768.2	726.2	658.4	577.8	551.9
62.5°	664.9	632.6	574.5	506.7	539.0
65°	571.3	539.0	487.4	497.1	413.1
67.5°	468.0	451.9	406.7	361.5	348.6
70°	380.9	361.5	345.4	296.9	284.0
72.5°	303.4	284.0	261.4	235.6	225.9
75°	229.2	213.0	200.1	190.4	209.8
77.5°	158.2	151.7	142.0	132.3	129.1
80°	103.3	100.1	96.8	93.6	90.4
82.5°	61.3	61.3	61.3	61.3	61.3
85°	32.3	35.5	38.7	42.0	45.2
87.5°	19.4	19.4	22.6	25.8	29.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)