

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: P590952

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-82-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590952
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-82-87-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6874.0 lumens
Efficiency: N/A
Efficacy: 103.2 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

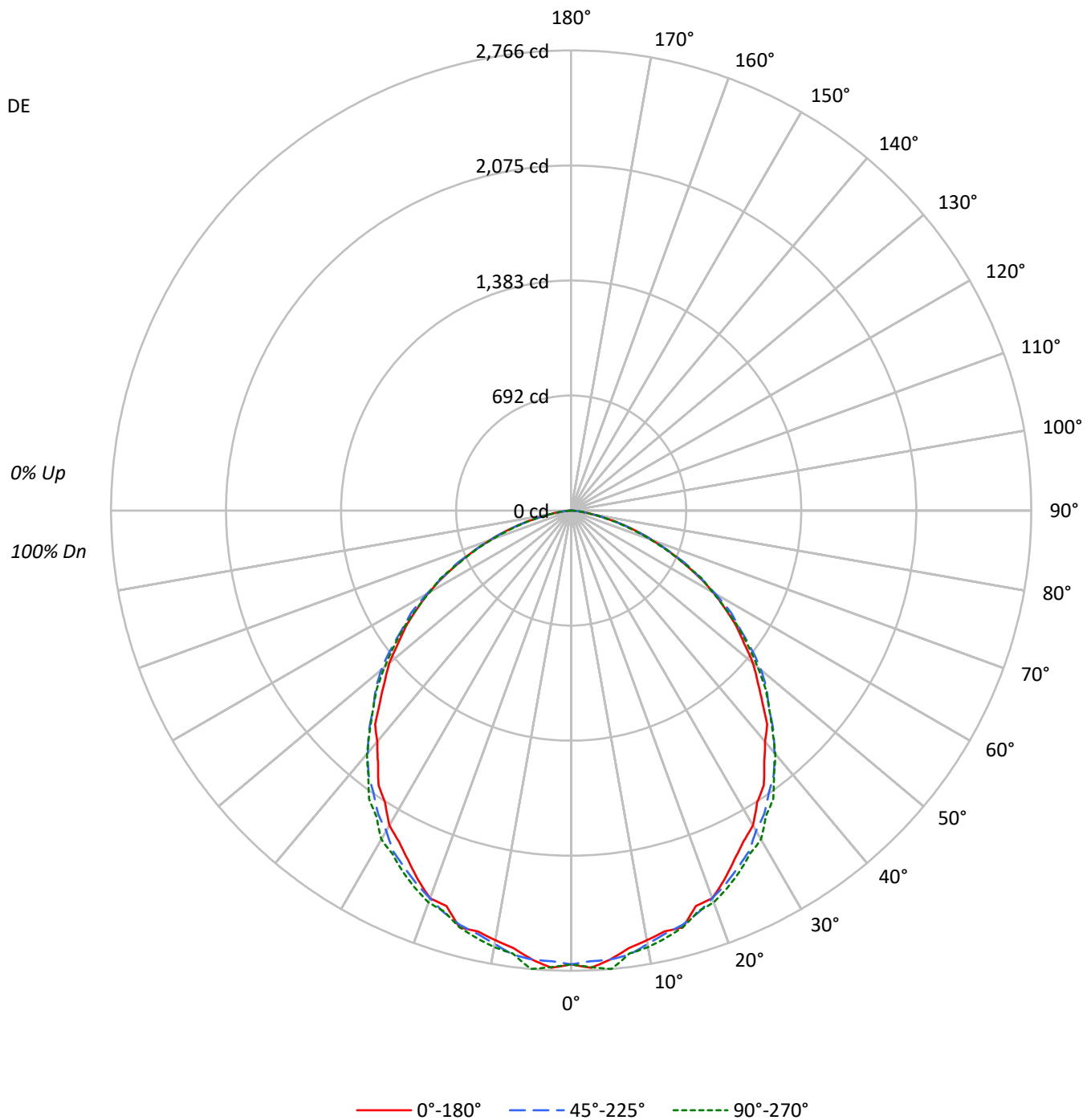
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	7339	7339	7339
5°	7315	7318	7472
10°	7167	7229	7280
15°	7224	7184	7225
20°	7102	7102	7177
25°	6883	7034	7111
30°	6789	6908	7092
35°	6629	6802	6955
40°	6371	6678	6707
45°	6178	6398	6407
50°	5975	6245	6126
55°	5693	5804	5763
60°	5324	5377	5280
65°	4747	4868	4713
70°	4073	4087	3973
75°	3225	3218	3094
80°	2162	2101	2019
85°	1173	1164	1087

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6563 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.6	3.7
10°-20°	727.1	10.6
20°-30°	1089.4	15.8
30°-40°	1291.1	18.8
40°-50°	1293.5	18.8
50°-60°	1098.0	16.0
60°-70°	740.2	10.8
70°-80°	325.3	4.7
80°-90°	52.9	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°	2073.0	30.2
0°-40°	3364.1	48.9
0°-60°	5755.6	83.7
0°-90°	6874.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6874.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2727	2727	2727	2727	2727	
5°	2708	2702	2709	2701	2766	255
15°	2593	2563	2579	2592	2593	722
25°	2318	2331	2369	2400	2395	1072
35°	2018	2024	2071	2119	2117	1253
45°	1623	1654	1681	1724	1684	1256
55°	1214	1205	1237	1229	1228	1079
65°	746	736	764	735	740	741
75°	310	304	310	288	298	332
85°	38	37	38	37	35	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2727.4	2727.4	2727.4	2727.4	2727.4
2.5°	2751.0	2730.2	2710.9	2733.4	2747.2
5°	2708.1	2701.7	2709.1	2701.0	2766.2
7.5°	2652.4	2676.7	2690.8	2682.0	2685.9
10°	2622.8	2614.4	2645.7	2667.6	2664.4
12.5°	2591.1	2603.8	2605.6	2629.2	2631.3
15°	2592.9	2563.0	2578.8	2592.2	2593.3
17.5°	2492.2	2524.6	2535.5	2566.1	2528.1
20°	2479.9	2456.3	2479.9	2511.2	2506.3
22.5°	2404.2	2377.7	2428.5	2456.3	2454.5
25°	2318.2	2330.9	2368.9	2399.9	2395.0
27.5°	2242.9	2257.7	2311.9	2354.5	2327.0
30°	2184.8	2177.4	2223.1	2261.2	2282.3
32.5°	2080.9	2107.6	2161.2	2198.8	2178.8
35°	2017.8	2023.8	2070.7	2118.6	2117.1
37.5°	1907.6	1935.4	2001.3	2014.7	2002.3
40°	1813.6	1841.4	1900.9	1915.4	1909.4
42.5°	1744.2	1749.1	1800.2	1816.8	1790.3
45°	1623.4	1653.7	1681.2	1724.5	1683.6
47.5°	1520.6	1534.7	1593.8	1605.5	1584.0
50°	1427.3	1432.2	1491.7	1477.3	1463.2
52.5°	1310.0	1330.8	1364.2	1361.4	1344.9
55°	1213.5	1205.4	1237.1	1228.7	1228.3
57.5°	1097.7	1111.7	1137.8	1124.4	1102.9
60°	989.2	989.6	999.1	983.9	981.1
62.5°	868.4	872.6	874.7	856.1	886.4
65°	745.5	735.6	764.5	735.3	740.2
67.5°	632.5	637.4	634.6	616.3	623.3
70°	517.7	524.0	519.4	498.6	505.0
72.5°	412.7	405.0	409.9	383.8	395.8
75°	310.2	303.9	309.5	287.7	297.6
77.5°	211.3	216.2	212.7	201.1	207.8
80°	139.5	135.6	135.6	128.9	130.3
82.5°	81.3	77.5	76.4	74.3	77.5
85°	38.0	37.0	37.7	36.6	35.2
87.5°	13.7	14.1	14.1	13.4	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)