

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: P564150

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-80-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564150
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-LD4-4STD-50-UNV-80-87-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13079.0 lumens
Efficiency: N/A
Efficacy: 98.2 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

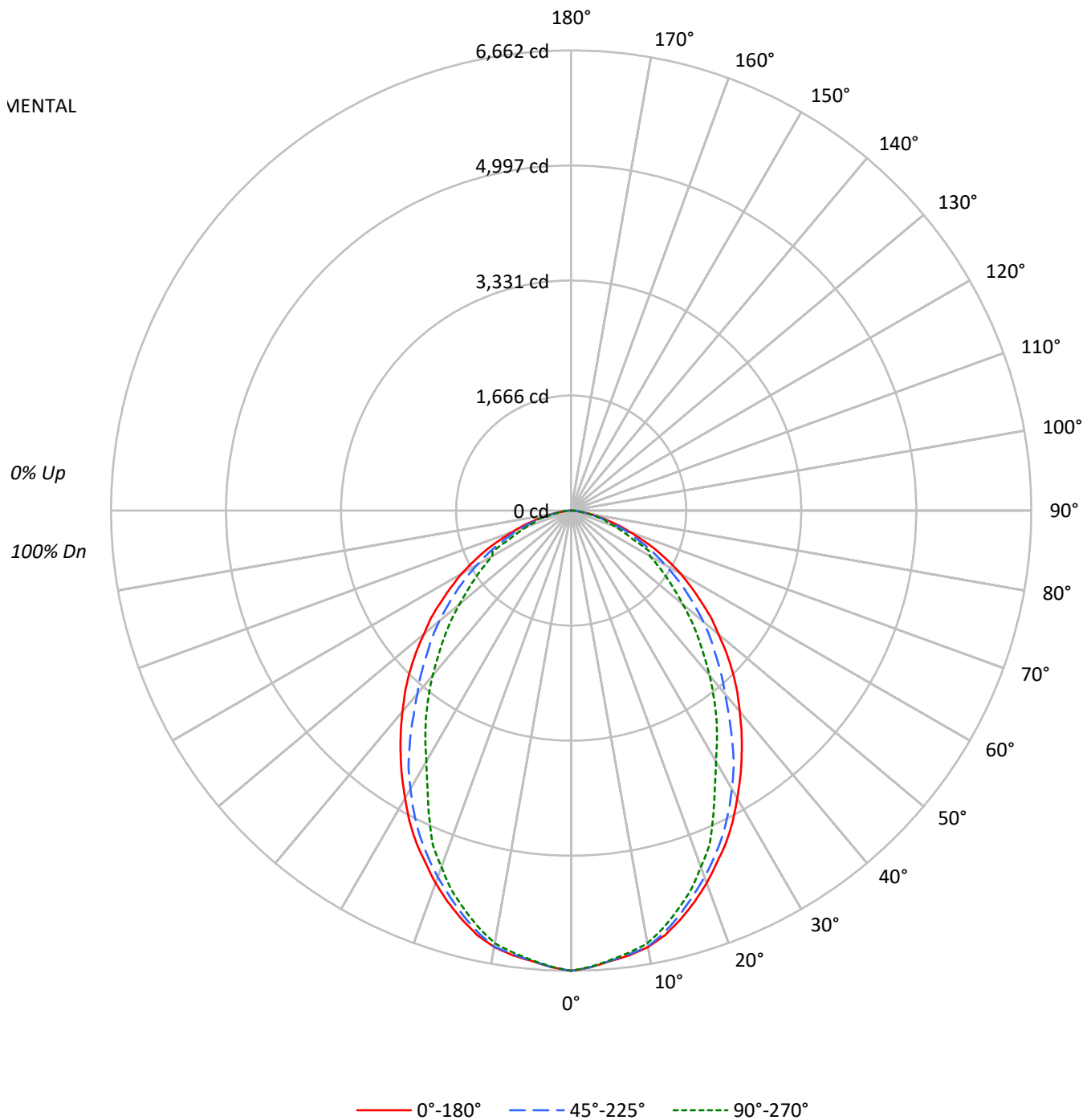
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8964	8964	8964
5°	8842	8832	8821
10°	8766	8755	8692
15°	8529	8443	8325
20°	8216	8084	7863
25°	7878	7707	7227
30°	7467	7228	6510
35°	7072	6680	6022
40°	6669	6088	5479
45°	6287	5628	4954
50°	5820	5224	4418
55°	5384	4734	3957
60°	4933	4228	3544
65°	4340	3703	3139
70°	3575	3242	2666
75°	2843	2482	2602
80°	1910	1791	1671
85°	1189	1426	1664

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6287 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	620.2	4.7
10°-20°	1702.0	13.0
20°-30°	2356.3	18.0
30°-40°	2512.5	19.2
40°-50°	2292.1	17.5
50°-60°	1795.7	13.7
60°-70°	1170.4	8.9
70°-80°	518.5	4.0
80°-90°	111.3	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°	4678.5	35.8
0°-40°	7191.0	55.0
0°-60°	11278.8	86.2
0°-90°	13079.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13079.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6662	6662	6662	6662	6662	
5°	6547	6539	6539	6531	6531	621
15°	6123	6123	6062	6000	5977	1721
25°	5307	5276	5191	5006	4868	2436
35°	4305	4275	4067	3759	3666	2692
45°	3304	3235	2958	2711	2603	2545
55°	2295	2226	2018	1779	1687	2059
65°	1363	1286	1163	1186	986	1343
75°	547	508	478	454	501	586
85°	77	85	92	100	108	107
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6662.3	6662.3	6662.3	6662.3	6662.3
2.5°	6616.1	6616.1	6616.1	6608.4	6608.4
5°	6546.7	6539.0	6539.0	6531.3	6531.3
7.5°	6492.8	6485.1	6477.4	6469.7	6454.3
10°	6415.8	6415.8	6408.1	6369.6	6361.9
12.5°	6292.6	6284.9	6254.1	6200.1	6184.7
15°	6123.1	6123.1	6061.5	5999.9	5976.8
17.5°	5938.3	5930.6	5853.6	5791.9	5761.1
20°	5738.0	5722.6	5645.6	5545.5	5491.6
22.5°	5514.7	5514.7	5422.2	5291.3	5237.4
25°	5306.7	5275.9	5191.2	5006.3	4867.7
27.5°	5067.9	5021.7	4929.3	4667.4	4505.7
30°	4806.1	4783.0	4652.0	4313.1	4189.9
32.5°	4559.6	4521.1	4382.5	4028.2	3928.0
35°	4305.4	4274.6	4066.7	3758.6	3666.2
37.5°	4051.3	4012.8	3750.9	3504.4	3388.9
40°	3797.1	3750.9	3465.9	3242.6	3119.3
42.5°	3558.3	3496.7	3219.5	2980.7	2842.1
45°	3304.2	3234.9	2957.6	2711.1	2603.3
47.5°	3050.0	2988.4	2734.2	2480.1	2356.8
50°	2780.4	2726.5	2495.5	2241.3	2110.4
52.5°	2557.1	2472.4	2249.0	1994.8	1887.0
55°	2295.2	2225.9	2017.9	1779.2	1686.7
57.5°	2056.4	1987.1	1794.6	1571.2	1494.2
60°	1833.1	1733.0	1571.2	1378.7	1317.0
62.5°	1586.6	1509.6	1371.0	1209.2	1286.2
65°	1363.3	1286.2	1163.0	1186.1	985.9
67.5°	1116.8	1078.3	970.5	862.6	831.8
70°	908.8	862.6	824.1	708.6	677.8
72.5°	724.0	677.8	623.9	562.2	539.1
75°	546.8	508.3	477.5	454.4	500.6
77.5°	377.4	362.0	338.9	315.8	308.1
80°	246.5	238.8	231.1	223.4	215.7
82.5°	146.3	146.3	146.3	146.3	146.3
85°	77.0	84.7	92.4	100.1	107.8
87.5°	46.2	46.2	53.9	61.6	69.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)