

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: P563543

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563543
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-LD4-3STD-40-UNV-82-87-EDD
Description: 2X4 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: 10311.0 lumens
Efficiency: N/A
Efficacy: 103.2 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

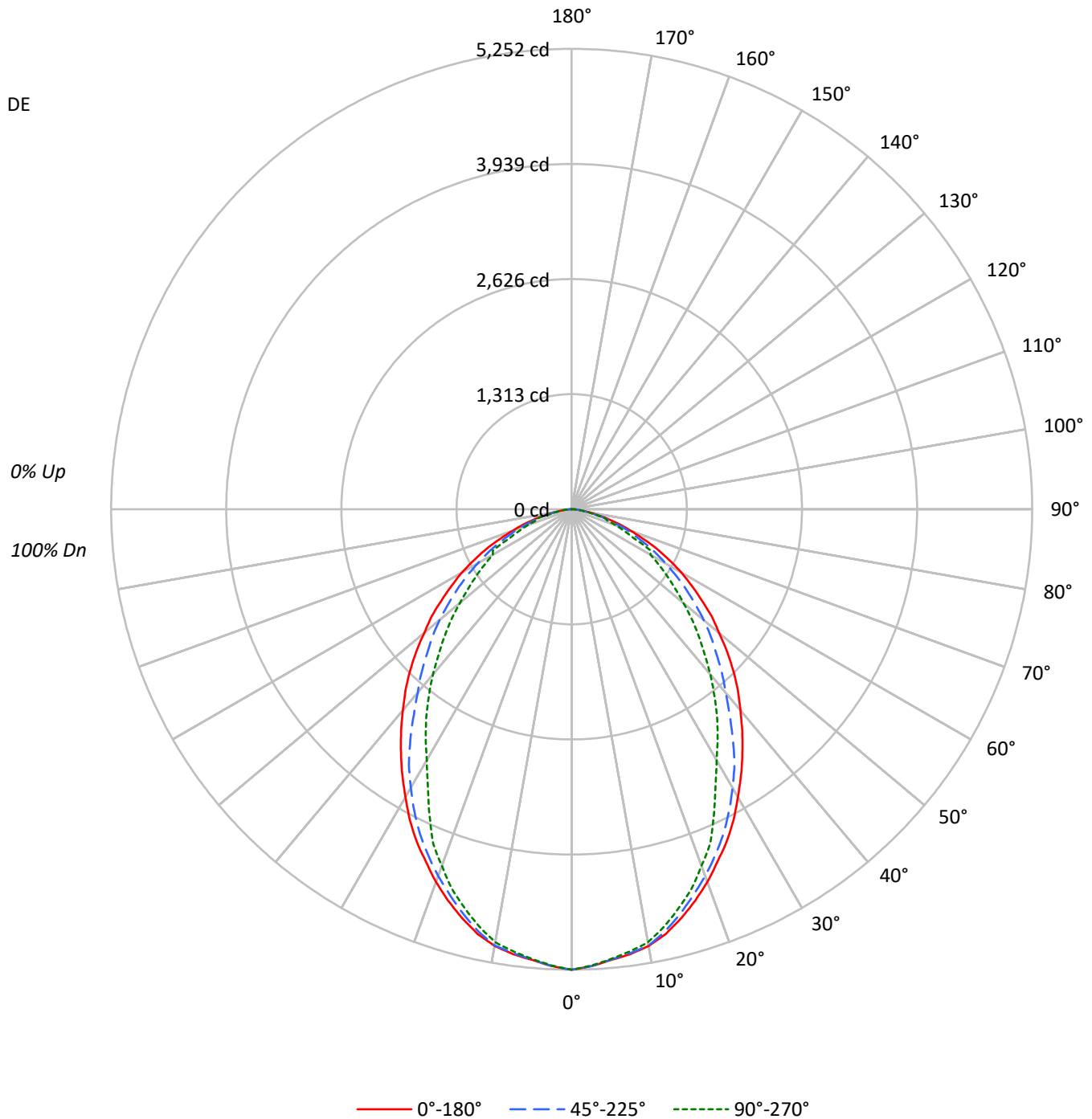
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7067	7067	7067
5°	6971	6963	6955
10°	6910	6902	6852
15°	6724	6657	6563
20°	6477	6373	6199
25°	6211	6076	5697
30°	5887	5698	5132
35°	5575	5266	4747
40°	5258	4799	4319
45°	4957	4437	3905
50°	4588	4118	3482
55°	4245	3732	3119
60°	3889	3333	2794
65°	3422	2919	2474
70°	2819	2556	2102
75°	2241	1957	2052
80°	1506	1412	1317
85°	937	1125	1312

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4957 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	488.9	4.7
10°-20°	1341.8	13.0
20°-30°	1857.6	18.0
30°-40°	1980.8	19.2
40°-50°	1807.0	17.5
50°-60°	1415.7	13.7
60°-70°	922.7	8.9
70°-80°	408.8	4.0
80°-90°	87.8	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°	3688.3	35.8
0°-40°	5669.1	55.0
0°-60°	8891.8	86.2
0°-90°	10311.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10311.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5252	5252	5252	5252	5252	
5°	5161	5155	5155	5149	5149	490
15°	4827	4827	4779	4730	4712	1357
25°	4184	4159	4092	3947	3838	1921
35°	3394	3370	3206	2963	2890	2122
45°	2605	2550	2332	2137	2052	2007
55°	1810	1755	1591	1403	1330	1623
65°	1075	1014	917	935	777	1059
75°	431	401	376	358	395	462
85°	61	67	73	79	85	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5252.3	5252.3	5252.3	5252.3	5252.3
2.5°	5215.9	5215.9	5215.9	5209.8	5209.8
5°	5161.2	5155.1	5155.1	5149.1	5149.1
7.5°	5118.7	5112.6	5106.6	5100.5	5088.3
10°	5058.0	5058.0	5051.9	5021.5	5015.5
12.5°	4960.8	4954.8	4930.5	4888.0	4875.8
15°	4827.2	4827.2	4778.7	4730.1	4711.9
17.5°	4681.5	4675.4	4614.7	4566.1	4541.9
20°	4523.6	4511.5	4450.8	4371.8	4329.3
22.5°	4347.6	4347.6	4274.7	4171.5	4129.0
25°	4183.6	4159.3	4092.5	3946.8	3837.5
27.5°	3995.4	3958.9	3886.1	3679.6	3552.1
30°	3788.9	3770.7	3667.5	3400.3	3303.2
32.5°	3594.6	3564.3	3455.0	3175.7	3096.7
35°	3394.3	3370.0	3206.0	2963.1	2890.3
37.5°	3193.9	3163.5	2957.1	2762.8	2671.7
40°	2993.5	2957.1	2732.4	2556.3	2459.2
42.5°	2805.3	2756.7	2538.1	2349.9	2240.6
45°	2604.9	2550.2	2331.7	2137.3	2052.3
47.5°	2404.5	2355.9	2155.6	1955.2	1858.0
50°	2192.0	2149.5	1967.3	1767.0	1663.7
52.5°	2015.9	1949.1	1773.0	1572.6	1487.6
55°	1809.5	1754.8	1590.9	1402.6	1329.8
57.5°	1621.2	1566.6	1414.8	1238.7	1178.0
60°	1445.1	1366.2	1238.7	1086.9	1038.3
62.5°	1250.8	1190.1	1080.8	953.3	1014.0
65°	1074.7	1014.0	916.9	935.1	777.2
67.5°	880.4	850.1	765.1	680.1	655.8
70°	716.5	680.1	649.7	558.6	534.3
72.5°	570.8	534.3	491.8	443.3	425.0
75°	431.1	400.8	376.5	358.2	394.7
77.5°	297.5	285.4	267.2	249.0	242.9
80°	194.3	188.2	182.2	176.1	170.0
82.5°	115.4	115.4	115.4	115.4	115.4
85°	60.7	66.8	72.9	78.9	85.0
87.5°	36.4	36.4	42.5	48.6	54.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)