

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: P563157

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563157
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-LD4-3HI-40-UNV-82-86-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13071.0 lumens
Efficiency: N/A
Efficacy: 100.9 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

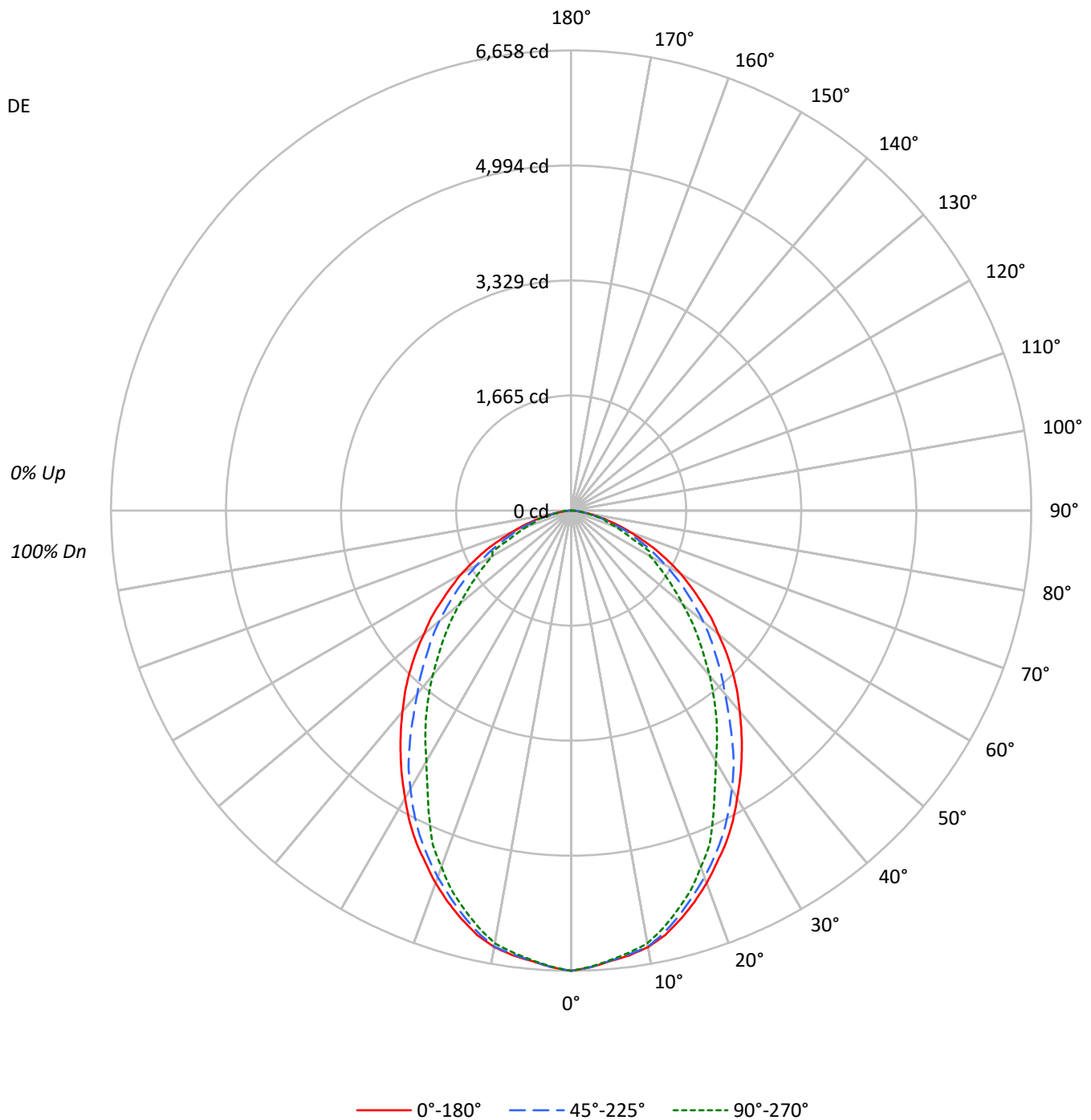
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8959	8959	8959
5°	8837	8826	8816
10°	8760	8750	8687
15°	8524	8438	8320
20°	8211	8079	7858
25°	7873	7702	7222
30°	7462	7223	6506
35°	7068	6676	6018
40°	6665	6084	5475
45°	6283	5624	4951
50°	5816	5220	4415
55°	5381	4731	3954
60°	4930	4226	3542
65°	4337	3700	3137
70°	3573	3240	2665
75°	2841	2481	2601
80°	1908	1789	1670
85°	1189	1426	1664

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6283 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	619.8	4.7
10°-20°	1701.0	13.0
20°-30°	2354.9	18.0
30°-40°	2511.0	19.2
40°-50°	2290.7	17.5
50°-60°	1794.6	13.7
60°-70°	1169.6	8.9
70°-80°	518.2	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°	4675.6	35.8
0°-40°	7186.6	55.0
0°-60°	11271.9	86.2
0°-90°	13071.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13071.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6658	6658	6658	6658	6658	
5°	6543	6535	6535	6527	6527	621
15°	6119	6119	6058	5996	5973	1720
25°	5304	5273	5188	5003	4865	2435
35°	4303	4272	4064	3756	3664	2690
45°	3302	3233	2956	2710	2602	2544
55°	2294	2224	2017	1778	1686	2057
65°	1362	1286	1162	1185	985	1343
75°	546	508	477	454	500	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°	6658.2	6658.2	6658.2	6658.2	6658.2
2.5°	6612.0	6612.0	6612.0	6604.3	6604.3
5°	6542.7	6535.0	6535.0	6527.3	6527.3
7.5°	6488.9	6481.2	6473.5	6465.8	6450.4
10°	6411.9	6411.9	6404.2	6365.7	6358.0
12.5°	6288.7	6281.0	6250.2	6196.4	6181.0
15°	6119.4	6119.4	6057.8	5996.2	5973.1
17.5°	5934.6	5926.9	5850.0	5788.4	5757.6
20°	5734.5	5719.1	5642.1	5542.1	5488.2
22.5°	5511.3	5511.3	5418.9	5288.1	5234.2
25°	5303.5	5272.7	5188.0	5003.3	4864.7
27.5°	5064.8	5018.7	4926.3	4664.6	4502.9
30°	4803.1	4780.0	4649.2	4310.5	4187.3
32.5°	4556.8	4518.3	4379.8	4025.7	3925.6
35°	4302.8	4272.0	4064.2	3756.3	3663.9
37.5°	4048.8	4010.3	3748.6	3502.3	3386.8
40°	3794.8	3748.6	3463.8	3240.6	3117.4
42.5°	3556.2	3494.6	3217.5	2978.9	2840.3
45°	3302.2	3232.9	2955.8	2709.5	2601.7
47.5°	3048.1	2986.6	2732.6	2478.5	2355.4
50°	2778.7	2724.9	2493.9	2239.9	2109.1
52.5°	2555.5	2470.8	2247.6	1993.6	1885.8
55°	2293.8	2224.5	2016.7	1778.1	1685.7
57.5°	2055.2	1985.9	1793.5	1570.3	1493.3
60°	1832.0	1731.9	1570.3	1377.8	1316.2
62.5°	1585.7	1508.7	1370.1	1208.5	1285.5
65°	1362.4	1285.5	1162.3	1185.4	985.3
67.5°	1116.1	1077.6	969.9	862.1	831.3
70°	908.3	862.1	823.6	708.2	677.4
72.5°	723.5	677.4	623.5	561.9	538.8
75°	546.5	508.0	477.2	454.1	500.3
77.5°	377.2	361.8	338.7	315.6	307.9
80°	246.3	238.6	230.9	223.2	215.5
82.5°	146.2	146.2	146.2	146.2	146.2
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)