

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: P563162

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563162
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-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11359.0 lumens
Efficiency: N/A
Efficacy: 87.6 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

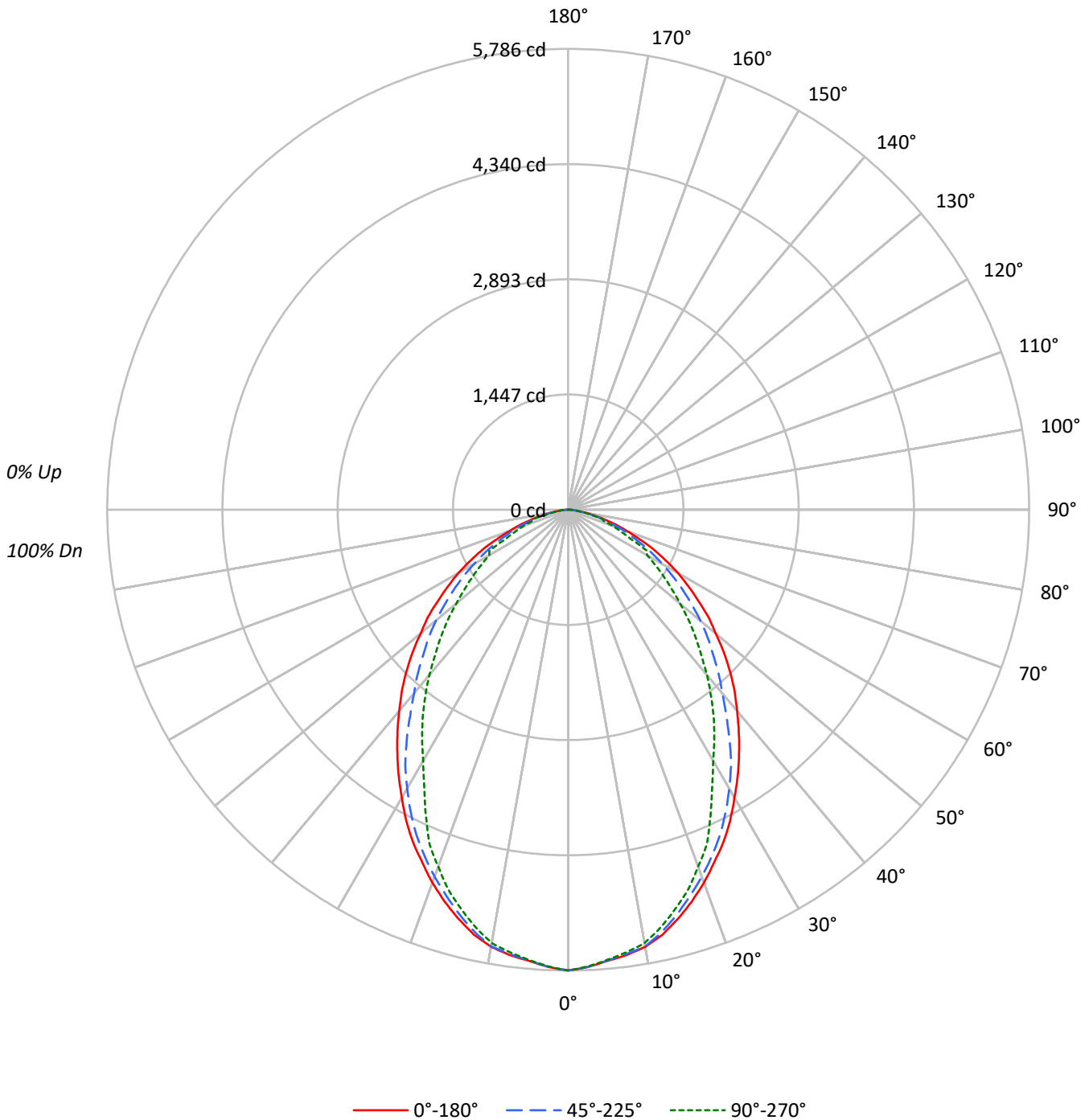
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7785	7785	7785
5°	7679	7670	7661
10°	7613	7604	7549
15°	7408	7333	7231
20°	7135	7021	6829
25°	6842	6693	6276
30°	6485	6277	5654
35°	6142	5801	5230
40°	5792	5287	4758
45°	5460	4888	4302
50°	5055	4537	3836
55°	4676	4111	3436
60°	4284	3672	3078
65°	3769	3216	2726
70°	3105	2816	2316
75°	2469	2156	2260
80°	1659	1555	1451
85°	1033	1240	1445

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5460 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	538.6	4.7
10°-20°	1478.2	13.0
20°-30°	2046.4	18.0
30°-40°	2182.1	19.2
40°-50°	1990.7	17.5
50°-60°	1559.6	13.7
60°-70°	1016.4	8.9
70°-80°	450.3	4.0
80°-90°	96.7	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°	4063.2	35.8
0°-40°	6245.3	55.0
0°-60°	9795.6	86.2
0°-90°	11359.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11359.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5786	5786	5786	5786	5786	
5°	5686	5679	5679	5672	5672	540
15°	5318	5318	5264	5211	5191	1495
25°	4609	4582	4508	4348	4228	2116
35°	3739	3712	3532	3264	3184	2338
45°	2870	2809	2569	2355	2261	2210
55°	1993	1933	1753	1545	1465	1788
65°	1184	1117	1010	1030	856	1167
75°	475	442	415	395	435	509
85°	67	74	80	87	94	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5786.1	5786.1	5786.1	5786.1	5786.1
2.5°	5746.0	5746.0	5746.0	5739.3	5739.3
5°	5685.8	5679.1	5679.1	5672.4	5672.4
7.5°	5639.0	5632.3	5625.6	5618.9	5605.5
10°	5572.1	5572.1	5565.4	5531.9	5525.2
12.5°	5465.0	5458.4	5431.6	5384.8	5371.4
15°	5317.9	5317.9	5264.4	5210.9	5190.8
17.5°	5157.3	5150.7	5083.8	5030.2	5003.5
20°	4983.4	4970.0	4903.2	4816.2	4769.4
22.5°	4789.4	4789.4	4709.2	4595.5	4548.6
25°	4608.8	4582.1	4508.5	4348.0	4227.5
27.5°	4401.5	4361.3	4281.1	4053.6	3913.2
30°	4174.0	4154.0	4040.3	3745.9	3638.9
32.5°	3960.0	3926.5	3806.1	3498.4	3411.5
35°	3739.2	3712.5	3531.9	3264.3	3184.0
37.5°	3518.5	3485.1	3257.6	3043.6	2943.2
40°	3297.8	3257.6	3010.1	2816.1	2709.1
42.5°	3090.4	3036.9	2796.1	2588.7	2468.3
45°	2869.6	2809.4	2568.6	2354.6	2260.9
47.5°	2648.9	2595.4	2374.7	2153.9	2046.9
50°	2414.8	2368.0	2167.3	1946.5	1832.8
52.5°	2220.8	2147.2	1953.2	1732.5	1638.8
55°	1993.4	1933.2	1752.6	1545.2	1464.9
57.5°	1786.0	1725.8	1558.6	1364.6	1297.7
60°	1592.0	1505.1	1364.6	1197.4	1143.8
62.5°	1378.0	1311.1	1190.7	1050.2	1117.1
65°	1184.0	1117.1	1010.1	1030.1	856.2
67.5°	969.9	936.5	842.8	749.2	722.4
70°	789.3	749.2	715.7	615.4	588.6
72.5°	628.8	588.6	541.8	488.3	468.2
75°	474.9	441.5	414.7	394.7	434.8
77.5°	327.8	314.4	294.3	274.3	267.6
80°	214.1	207.4	200.7	194.0	187.3
82.5°	127.1	127.1	127.1	127.1	127.1
85°	66.9	73.6	80.3	87.0	93.6
87.5°	40.1	40.1	46.8	53.5	60.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)