

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: P563917

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563917
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-LD4-4LO-40-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11086.0 lumens
Efficiency: N/A
Efficacy: 118.4 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

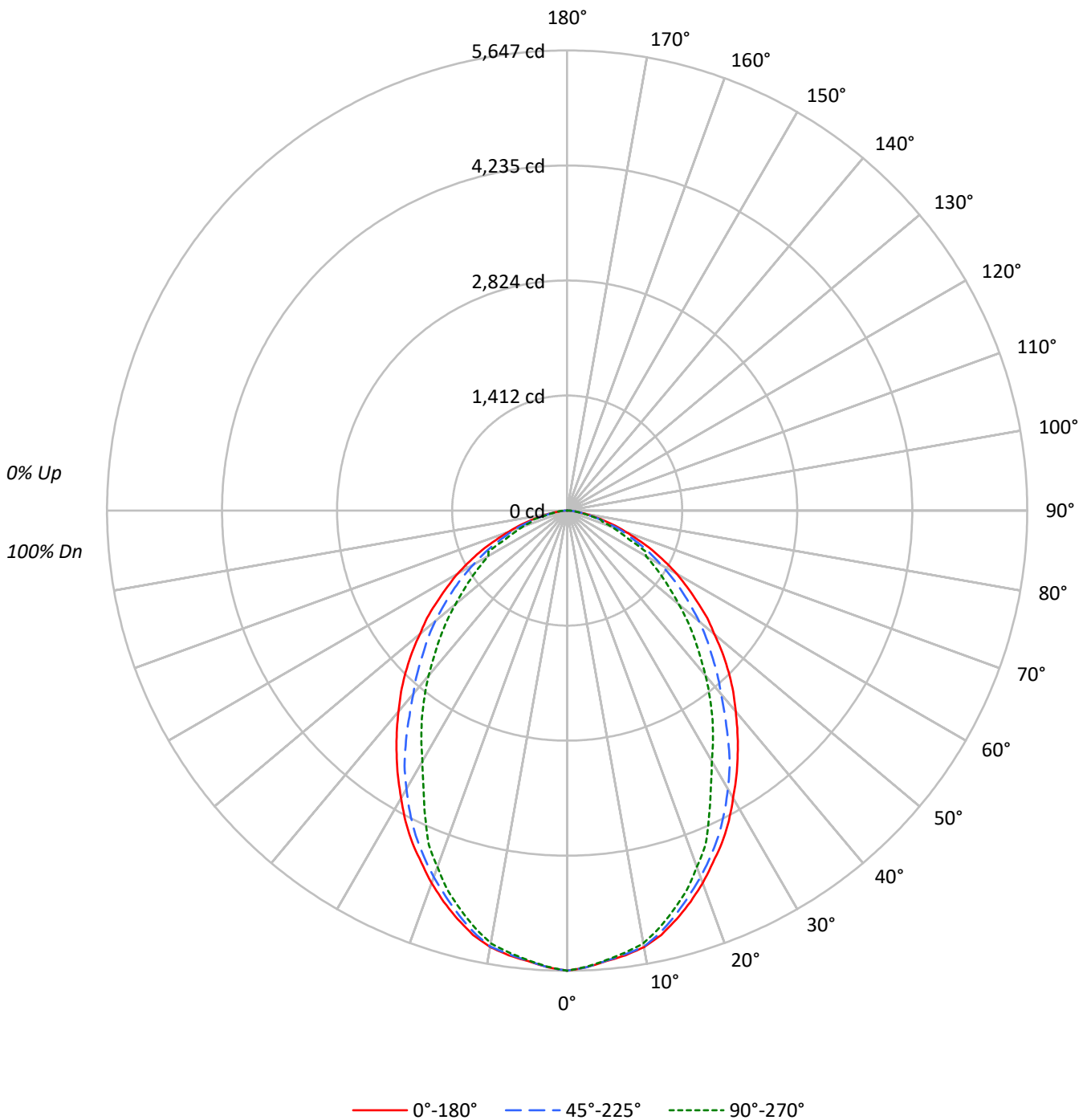
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7598	7598	7598
5°	7495	7486	7477
10°	7430	7421	7367
15°	7230	7157	7057
20°	6964	6852	6665
25°	6678	6532	6125
30°	6329	6126	5518
35°	5994	5662	5104
40°	5653	5160	4644
45°	5329	4770	4199
50°	4933	4428	3744
55°	4564	4012	3354
60°	4181	3584	3004
65°	3679	3138	2660
70°	3031	2748	2260
75°	2410	2104	2206
80°	1619	1518	1416
85°	1008	1209	1411

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5329 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	525.7	4.7
10°-20°	1442.6	13.0
20°-30°	1997.2	18.0
30°-40°	2129.6	19.2
40°-50°	1942.9	17.5
50°-60°	1522.1	13.7
60°-70°	992.0	8.9
70°-80°	439.5	4.0
80°-90°	94.4	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°	3965.6	35.8
0°-40°	6095.2	55.0
0°-60°	9560.1	86.2
0°-90°	11086.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11086.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5647	5647	5647	5647	5647	
5°	5549	5543	5543	5536	5536	527
15°	5190	5190	5138	5086	5066	1459
25°	4498	4472	4400	4244	4126	2065
35°	3649	3623	3447	3186	3108	2282
45°	2801	2742	2507	2298	2207	2157
55°	1946	1887	1710	1508	1430	1745
65°	1156	1090	986	1005	836	1139
75°	464	431	405	385	424	497
85°	65	72	78	85	91	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5647.1	5647.1	5647.1	5647.1	5647.1
2.5°	5607.9	5607.9	5607.9	5601.4	5601.4
5°	5549.1	5542.6	5542.6	5536.1	5536.1
7.5°	5503.4	5496.9	5490.4	5483.9	5470.8
10°	5438.2	5438.2	5431.6	5399.0	5392.5
12.5°	5333.7	5327.2	5301.1	5255.4	5242.3
15°	5190.1	5190.1	5137.8	5085.6	5066.0
17.5°	5033.4	5026.9	4961.6	4909.4	4883.2
20°	4863.7	4850.6	4785.3	4700.4	4654.7
22.5°	4674.3	4674.3	4596.0	4485.0	4439.3
25°	4498.1	4471.9	4400.1	4243.5	4125.9
27.5°	4295.7	4256.5	4178.2	3956.2	3819.1
30°	4073.7	4054.1	3943.1	3655.9	3551.4
32.5°	3864.8	3832.2	3714.7	3414.3	3329.5
35°	3649.4	3623.3	3447.0	3185.9	3107.5
37.5°	3433.9	3401.3	3179.3	2970.4	2872.5
40°	3218.5	3179.3	2937.8	2748.5	2644.0
42.5°	3016.1	2963.9	2728.9	2526.5	2409.0
45°	2800.7	2741.9	2506.9	2298.0	2206.6
47.5°	2585.2	2533.0	2317.6	2102.1	1997.7
50°	2356.8	2311.1	2115.2	1899.8	1788.8
52.5°	2167.4	2095.6	1906.3	1690.9	1599.5
55°	1945.5	1886.7	1710.4	1508.1	1429.7
57.5°	1743.1	1684.3	1521.1	1331.8	1266.5
60°	1553.8	1468.9	1331.8	1168.6	1116.4
62.5°	1344.8	1279.6	1162.1	1025.0	1090.2
65°	1155.5	1090.2	985.8	1005.4	835.6
67.5°	946.6	914.0	822.6	731.2	705.1
70°	770.4	731.2	698.5	600.6	574.5
72.5°	613.7	574.5	528.8	476.6	457.0
75°	463.5	430.9	404.8	385.2	424.3
77.5°	319.9	306.8	287.2	267.7	261.1
80°	208.9	202.4	195.9	189.3	182.8
82.5°	124.0	124.0	124.0	124.0	124.0
85°	65.3	71.8	78.3	84.9	91.4
87.5°	39.2	39.2	45.7	52.2	58.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)