

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: P563915

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563915
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-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 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: 11210.0 lumens
Efficiency: N/A
Efficacy: 119.8 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

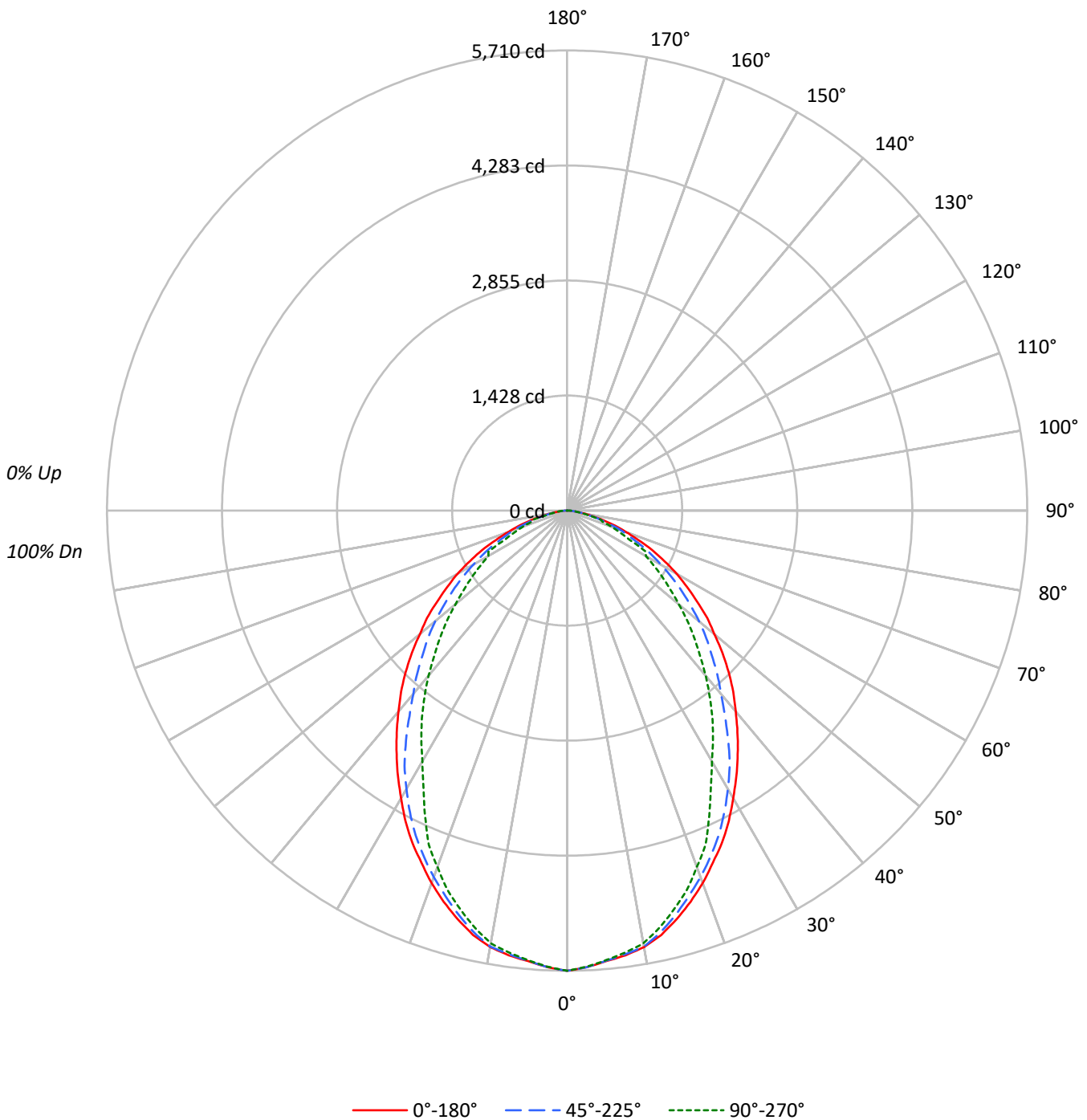
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7683	7683	7683
5°	7579	7570	7561
10°	7513	7504	7450
15°	7310	7237	7136
20°	7042	6928	6739
25°	6752	6606	6194
30°	6400	6195	5579
35°	6061	5725	5161
40°	5716	5218	4696
45°	5389	4823	4246
50°	4988	4477	3786
55°	4615	4057	3391
60°	4228	3624	3038
65°	3720	3174	2690
70°	3065	2779	2285
75°	2437	2128	2231
80°	1636	1534	1432
85°	1019	1223	1426

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5389 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	531.5	4.7
10°-20°	1458.8	13.0
20°-30°	2019.6	18.0
30°-40°	2153.5	19.2
40°-50°	1964.6	17.5
50°-60°	1539.1	13.7
60°-70°	1003.1	8.9
70°-80°	444.4	4.0
80°-90°	95.4	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°	4009.9	35.8
0°-40°	6163.4	55.0
0°-60°	9667.1	86.2
0°-90°	11210.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11210.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5710	5710	5710	5710	5710	
5°	5611	5605	5605	5598	5598	533
15°	5248	5248	5195	5142	5123	1475
25°	4548	4522	4449	4291	4172	2088
35°	3690	3664	3486	3222	3142	2307
45°	2832	2773	2535	2324	2231	2181
55°	1967	1908	1730	1525	1446	1764
65°	1168	1102	997	1017	845	1152
75°	469	436	409	390	429	502
85°	66	73	79	86	92	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5710.2	5710.2	5710.2	5710.2	5710.2
2.5°	5670.6	5670.6	5670.6	5664.0	5664.0
5°	5611.2	5604.6	5604.6	5598.0	5598.0
7.5°	5565.0	5558.4	5551.8	5545.2	5532.0
10°	5499.0	5499.0	5492.4	5459.4	5452.8
12.5°	5393.4	5386.8	5360.3	5314.1	5300.9
15°	5248.1	5248.1	5195.3	5142.5	5122.7
17.5°	5089.7	5083.1	5017.1	4964.3	4937.9
20°	4918.1	4904.9	4838.8	4753.0	4706.8
22.5°	4726.6	4726.6	4647.4	4535.2	4489.0
25°	4548.4	4522.0	4449.4	4290.9	4172.1
27.5°	4343.7	4304.1	4224.9	4000.5	3861.8
30°	4119.3	4099.5	3987.3	3696.8	3591.2
32.5°	3908.0	3875.0	3756.2	3452.5	3366.7
35°	3690.2	3663.8	3485.5	3221.5	3142.3
37.5°	3472.3	3439.3	3214.9	3003.6	2904.6
40°	3254.5	3214.9	2970.6	2779.2	2673.6
42.5°	3049.9	2997.0	2759.4	2554.7	2435.9
45°	2832.0	2772.6	2534.9	2323.7	2231.3
47.5°	2614.2	2561.3	2343.5	2125.7	2020.0
50°	2383.1	2336.9	2138.9	1921.0	1808.8
52.5°	2191.7	2119.1	1927.6	1709.8	1617.3
55°	1967.2	1907.8	1729.6	1524.9	1445.7
57.5°	1762.6	1703.2	1538.1	1346.7	1280.7
60°	1571.1	1485.3	1346.7	1181.7	1128.8
62.5°	1359.9	1293.9	1175.1	1036.4	1102.4
65°	1168.5	1102.4	996.8	1016.6	845.0
67.5°	957.2	924.2	831.8	739.4	713.0
70°	779.0	739.4	706.4	607.3	580.9
72.5°	620.5	580.9	534.7	481.9	462.1
75°	468.7	435.7	409.3	389.5	429.1
77.5°	323.5	310.3	290.5	270.7	264.1
80°	211.2	204.6	198.0	191.4	184.8
82.5°	125.4	125.4	125.4	125.4	125.4
85°	66.0	72.6	79.2	85.8	92.4
87.5°	39.6	39.6	46.2	52.8	59.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)