

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: P563918

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563918
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-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 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: 8981.0 lumens
Efficiency: N/A
Efficacy: 96.0 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

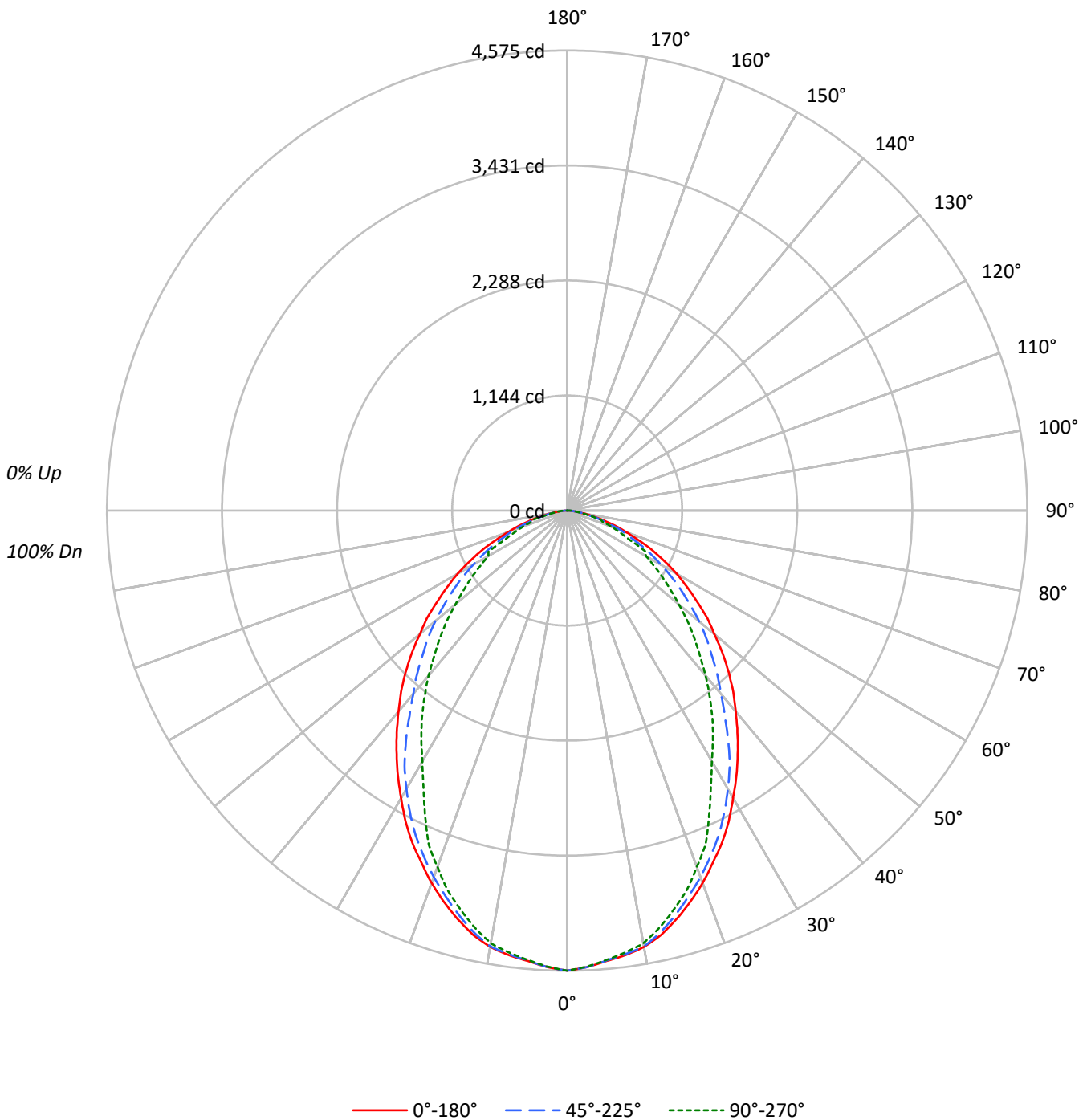
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	6155	6155	6155
5°	6072	6065	6057
10°	6019	6012	5968
15°	5857	5798	5717
20°	5642	5551	5399
25°	5410	5292	4962
30°	5127	4963	4470
35°	4856	4587	4135
40°	4580	4180	3762
45°	4317	3864	3401
50°	3997	3587	3033
55°	3697	3251	2717
60°	3387	2903	2434
65°	2980	2543	2155
70°	2455	2226	1831
75°	1952	1705	1787
80°	1311	1230	1148
85°	817	980	1142

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4317 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	425.9	4.7
10°-20°	1168.7	13.0
20°-30°	1618.0	18.0
30°-40°	1725.3	19.2
40°-50°	1574.0	17.5
50°-60°	1233.1	13.7
60°-70°	803.6	8.9
70°-80°	356.1	4.0
80°-90°	76.5	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°	3212.6	35.8
0°-40°	4937.8	55.0
0°-60°	7744.9	86.2
0°-90°	8981.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8981.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4575	4575	4575	4575	4575	
5°	4496	4490	4490	4485	4485	427
15°	4205	4205	4162	4120	4104	1182
25°	3644	3623	3565	3438	3342	1673
35°	2956	2935	2792	2581	2518	1848
45°	2269	2221	2031	1862	1788	1748
55°	1576	1528	1386	1222	1158	1414
65°	936	883	799	814	677	923
75°	376	349	328	312	344	402
85°	53	58	64	69	74	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4574.8	4574.8	4574.8	4574.8	4574.8
2.5°	4543.1	4543.1	4543.1	4537.8	4537.8
5°	4495.5	4490.2	4490.2	4484.9	4484.9
7.5°	4458.4	4453.2	4447.9	4442.6	4432.0
10°	4405.6	4405.6	4400.3	4373.8	4368.5
12.5°	4320.9	4315.7	4294.5	4257.5	4246.9
15°	4204.6	4204.6	4162.3	4120.0	4104.1
17.5°	4077.7	4072.4	4019.5	3977.2	3956.0
20°	3940.1	3929.6	3876.7	3807.9	3770.9
22.5°	3786.8	3786.8	3723.3	3633.4	3596.4
25°	3644.0	3622.8	3564.6	3437.7	3342.5
27.5°	3480.0	3448.3	3384.8	3205.0	3093.9
30°	3300.2	3284.3	3194.4	2961.7	2877.1
32.5°	3131.0	3104.5	3009.3	2766.0	2697.3
35°	2956.4	2935.3	2792.5	2580.9	2517.5
37.5°	2781.9	2755.5	2575.6	2406.4	2327.1
40°	2607.4	2575.6	2380.0	2226.6	2142.0
42.5°	2443.4	2401.1	2210.7	2046.8	1951.6
45°	2268.9	2221.3	2030.9	1861.7	1787.6
47.5°	2094.4	2052.0	1877.5	1703.0	1618.4
50°	1909.3	1872.2	1713.6	1539.0	1449.1
52.5°	1755.9	1697.7	1544.3	1369.8	1295.8
55°	1576.1	1528.5	1385.7	1221.7	1158.2
57.5°	1412.1	1364.5	1232.3	1078.9	1026.0
60°	1258.7	1190.0	1078.9	946.7	904.4
62.5°	1089.5	1036.6	941.4	830.3	883.2
65°	936.1	883.2	798.6	814.5	677.0
67.5°	766.9	740.4	666.4	592.3	571.2
70°	624.1	592.3	565.9	486.6	465.4
72.5°	497.1	465.4	428.4	386.1	370.2
75°	375.5	349.1	327.9	312.0	343.8
77.5°	259.2	248.6	232.7	216.8	211.6
80°	169.2	164.0	158.7	153.4	148.1
82.5°	100.5	100.5	100.5	100.5	100.5
85°	52.9	58.2	63.5	68.8	74.0
87.5°	31.7	31.7	37.0	42.3	47.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)