

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: P563565

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563565
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-LD4-3STD-40-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11744.0 lumens
Efficiency: N/A
Efficacy: 117.6 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

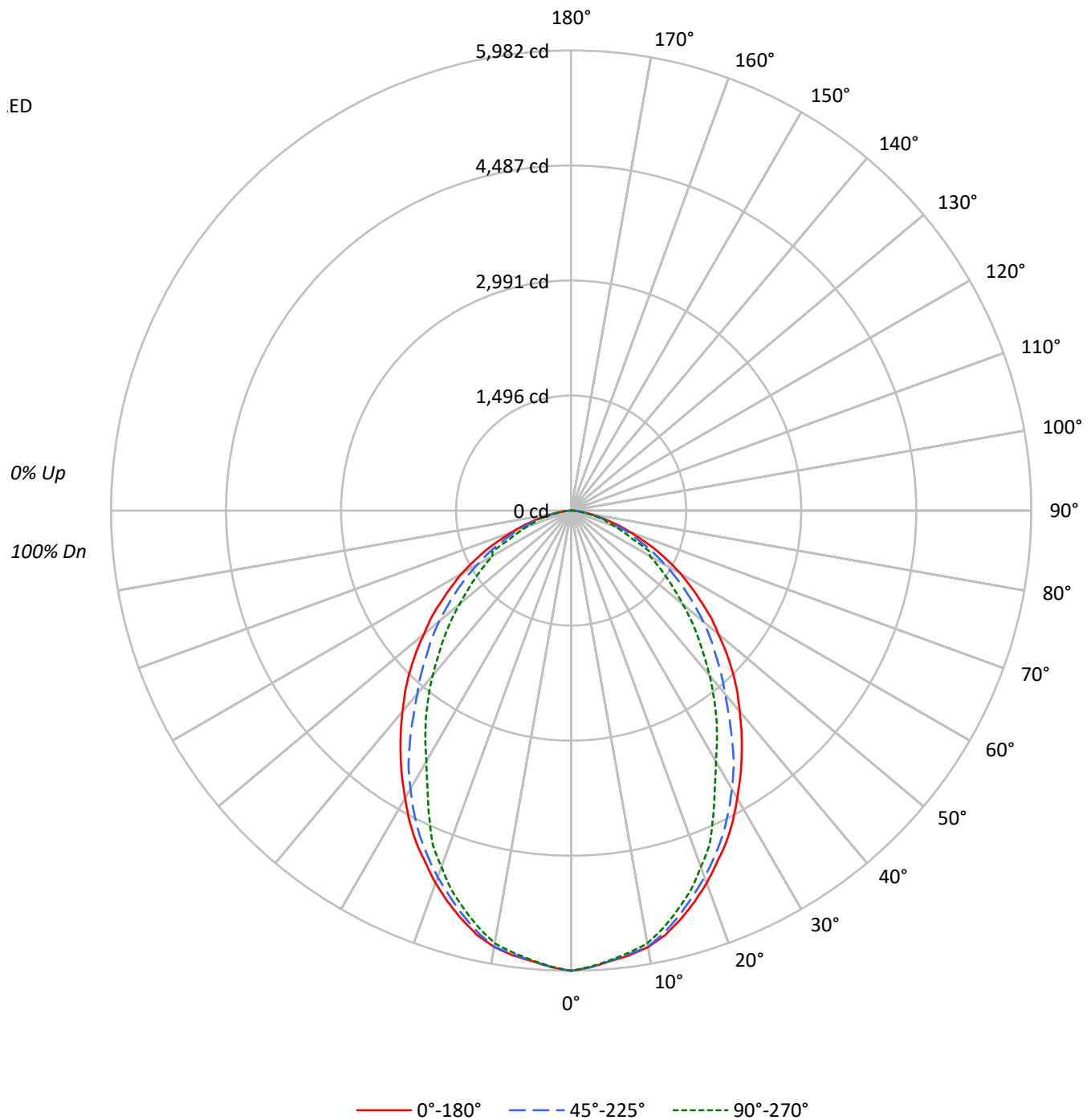
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	8049	8049	8049
5°	7940	7930	7921
10°	7871	7861	7805
15°	7659	7582	7476
20°	7377	7258	7060
25°	7074	6920	6489
30°	6705	6490	5845
35°	6350	5998	5407
40°	5988	5466	4920
45°	5645	5053	4448
50°	5226	4690	3967
55°	4834	4251	3553
60°	4429	3796	3182
65°	3897	3325	2818
70°	3210	2911	2394
75°	2552	2229	2337
80°	1715	1608	1500
85°	1068	1281	1494

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5645 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	556.9	4.7
10°-20°	1528.3	13.0
20°-30°	2115.8	18.0
30°-40°	2256.0	19.2
40°-50°	2058.2	17.5
50°-60°	1612.4	13.7
60°-70°	1050.9	8.9
70°-80°	465.6	4.0
80°-90°	100.0	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°	4200.9	35.8
0°-40°	6457.0	55.0
0°-60°	10127.5	86.2
0°-90°	11744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11744.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5982	5982	5982	5982	5982	
5°	5878	5872	5872	5865	5865	558
15°	5498	5498	5443	5388	5367	1546
25°	4765	4737	4661	4495	4371	2188
35°	3866	3838	3652	3375	3292	2417
45°	2967	2905	2656	2434	2338	2285
55°	2061	1999	1812	1598	1515	1848
65°	1224	1155	1044	1065	885	1206
75°	491	456	429	408	450	526
85°	69	76	83	90	97	96
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5982.2	5982.2	5982.2	5982.2	5982.2
2.5°	5940.7	5940.7	5940.7	5933.8	5933.8
5°	5878.5	5871.6	5871.6	5864.7	5864.7
7.5°	5830.1	5823.2	5816.3	5809.3	5795.5
10°	5760.9	5760.9	5754.0	5719.4	5712.5
12.5°	5650.3	5643.4	5615.7	5567.3	5553.5
15°	5498.1	5498.1	5442.8	5387.5	5366.7
17.5°	5332.1	5325.2	5256.1	5200.7	5173.1
20°	5152.3	5138.5	5069.3	4979.4	4931.0
22.5°	4951.8	4951.8	4868.8	4751.2	4702.8
25°	4765.0	4737.4	4661.3	4495.3	4370.8
27.5°	4550.6	4509.2	4426.2	4191.0	4045.8
30°	4315.5	4294.8	4177.2	3872.9	3762.2
32.5°	4094.2	4059.6	3935.1	3617.0	3527.1
35°	3866.0	3838.3	3651.6	3374.9	3292.0
37.5°	3637.8	3603.2	3368.0	3146.7	3043.0
40°	3409.5	3368.0	3112.1	2911.6	2800.9
42.5°	3195.1	3139.8	2890.8	2676.4	2552.0
45°	2966.9	2904.7	2655.7	2434.4	2337.6
47.5°	2738.7	2683.4	2455.1	2226.9	2116.3
50°	2496.6	2448.2	2240.7	2012.5	1895.0
52.5°	2296.1	2220.0	2019.4	1791.2	1694.4
55°	2060.9	1998.7	1812.0	1597.6	1514.6
57.5°	1846.5	1784.3	1611.4	1410.8	1341.7
60°	1646.0	1556.1	1410.8	1237.9	1182.6
62.5°	1424.7	1355.5	1231.0	1085.8	1155.0
65°	1224.1	1155.0	1044.3	1065.0	885.2
67.5°	1002.8	968.2	871.4	774.6	746.9
70°	816.1	774.6	740.0	636.3	608.6
72.5°	650.1	608.6	560.2	504.9	484.1
75°	491.0	456.4	428.8	408.0	449.5
77.5°	338.9	325.0	304.3	283.6	276.6
80°	221.3	214.4	207.5	200.6	193.6
82.5°	131.4	131.4	131.4	131.4	131.4
85°	69.2	76.1	83.0	89.9	96.8
87.5°	41.5	41.5	48.4	55.3	62.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)