

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: P563049

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563049
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-LD4-2STD-50-UNV-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6782.0 lumens
Efficiency: N/A
Efficacy: 101.8 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

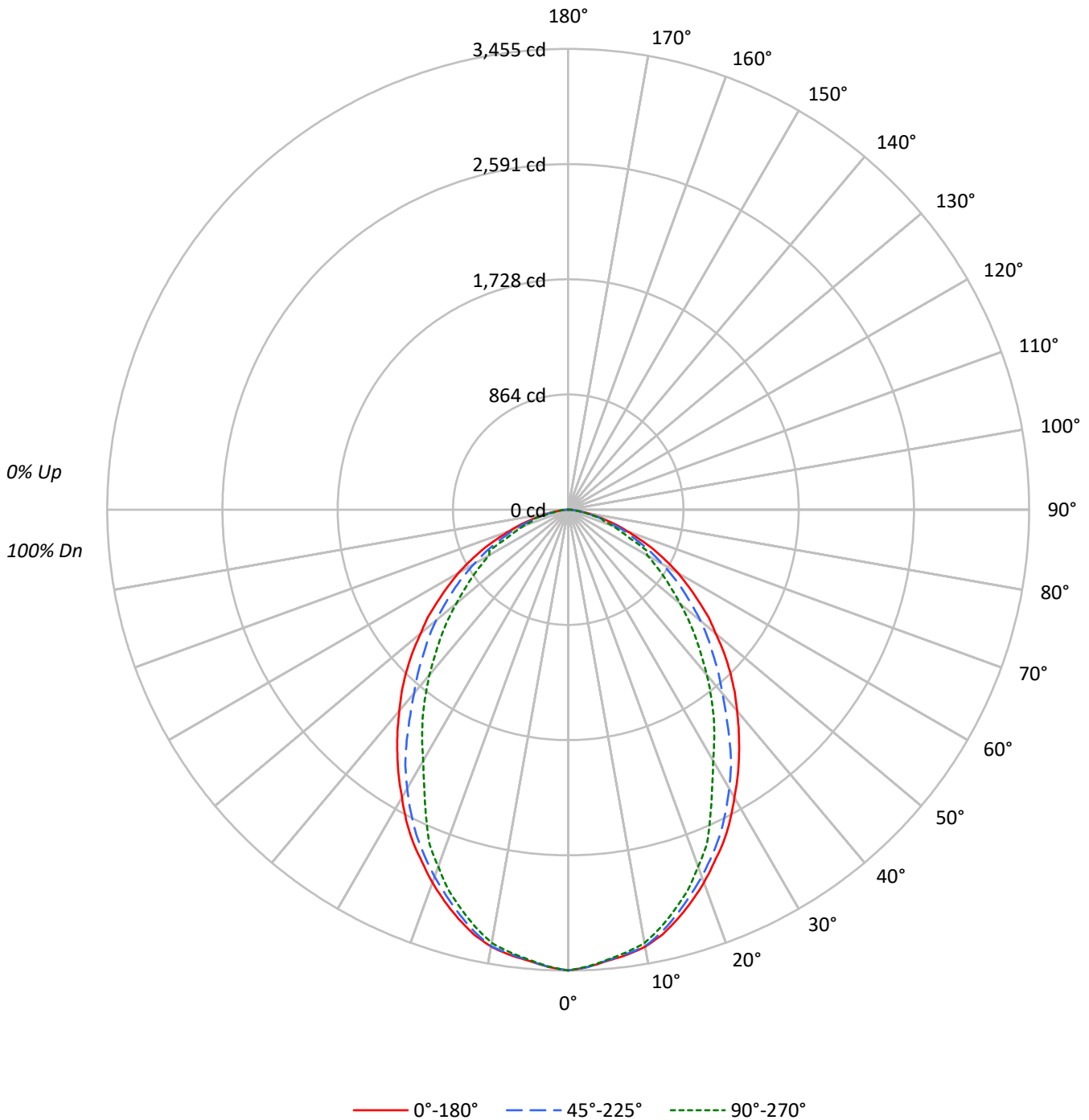
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4648	4648	4648
5°	4585	4580	4574
10°	4545	4540	4507
15°	4423	4378	4317
20°	4260	4192	4077
25°	4085	3996	3747
30°	3872	3748	3375
35°	3667	3464	3123
40°	3458	3157	2841
45°	3260	2918	2569
50°	3018	2709	2291
55°	2792	2455	2052
60°	2558	2192	1838
65°	2251	1920	1628
70°	1854	1681	1383
75°	1474	1287	1350
80°	990	928	866
85°	616	739	863

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3260 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	321.6	4.7
10°-20°	882.6	13.0
20°-30°	1221.8	18.0
30°-40°	1302.8	19.2
40°-50°	1188.6	17.5
50°-60°	931.1	13.7
60°-70°	606.9	8.9
70°-80°	268.9	4.0
80°-90°	57.7	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°	2426.0	35.8
0°-40°	3728.8	55.0
0°-60°	5848.5	86.2
0°-90°	6782.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6782.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3455	3455	3455	3455	3455	
5°	3395	3391	3391	3387	3387	322
15°	3175	3175	3143	3111	3099	893
25°	2752	2736	2692	2596	2524	1263
35°	2232	2217	2109	1949	1901	1396
45°	1713	1677	1534	1406	1350	1320
55°	1190	1154	1046	923	875	1068
65°	707	667	603	615	511	697
75°	284	264	248	236	260	304
85°	40	44	48	52	56	55
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3454.7	3454.7	3454.7	3454.7	3454.7
2.5°	3430.7	3430.7	3430.7	3426.7	3426.7
5°	3394.8	3390.8	3390.8	3386.8	3386.8
7.5°	3366.8	3362.8	3358.8	3354.8	3346.8
10°	3326.9	3326.9	3322.9	3302.9	3298.9
12.5°	3263.0	3259.0	3243.0	3215.0	3207.0
15°	3175.1	3175.1	3143.1	3111.2	3099.2
17.5°	3079.2	3075.2	3035.3	3003.4	2987.4
20°	2975.4	2967.4	2927.5	2875.6	2847.6
22.5°	2859.6	2859.6	2811.7	2743.8	2715.8
25°	2751.7	2735.8	2691.8	2596.0	2524.1
27.5°	2627.9	2604.0	2556.0	2420.3	2336.4
30°	2492.1	2480.2	2412.3	2236.5	2172.6
32.5°	2364.3	2344.4	2272.5	2088.8	2036.9
35°	2232.5	2216.6	2108.7	1949.0	1901.1
37.5°	2100.8	2080.8	1945.0	1817.2	1757.3
40°	1969.0	1945.0	1797.2	1681.4	1617.5
42.5°	1845.1	1813.2	1669.4	1545.6	1473.7
45°	1713.4	1677.4	1533.6	1405.8	1349.9
47.5°	1581.6	1549.6	1417.8	1286.0	1222.1
50°	1441.8	1413.8	1294.0	1162.2	1094.3
52.5°	1326.0	1282.0	1166.2	1034.4	978.5
55°	1190.2	1154.2	1046.4	922.6	874.6
57.5°	1066.4	1030.4	930.6	814.7	774.8
60°	950.5	898.6	814.7	714.9	682.9
62.5°	822.7	782.8	710.9	627.0	667.0
65°	706.9	667.0	603.1	615.0	511.2
67.5°	579.1	559.1	503.2	447.3	431.3
70°	471.3	447.3	427.3	367.4	351.5
72.5°	375.4	351.5	323.5	291.5	279.6
75°	283.6	263.6	247.6	235.6	259.6
77.5°	195.7	187.7	175.7	163.7	159.8
80°	127.8	123.8	119.8	115.8	111.8
82.5°	75.9	75.9	75.9	75.9	75.9
85°	39.9	43.9	47.9	51.9	55.9
87.5°	24.0	24.0	28.0	32.0	35.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)