

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: P561741

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561741
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-12-4-LD4-2STD-35-UNV-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6255.0 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

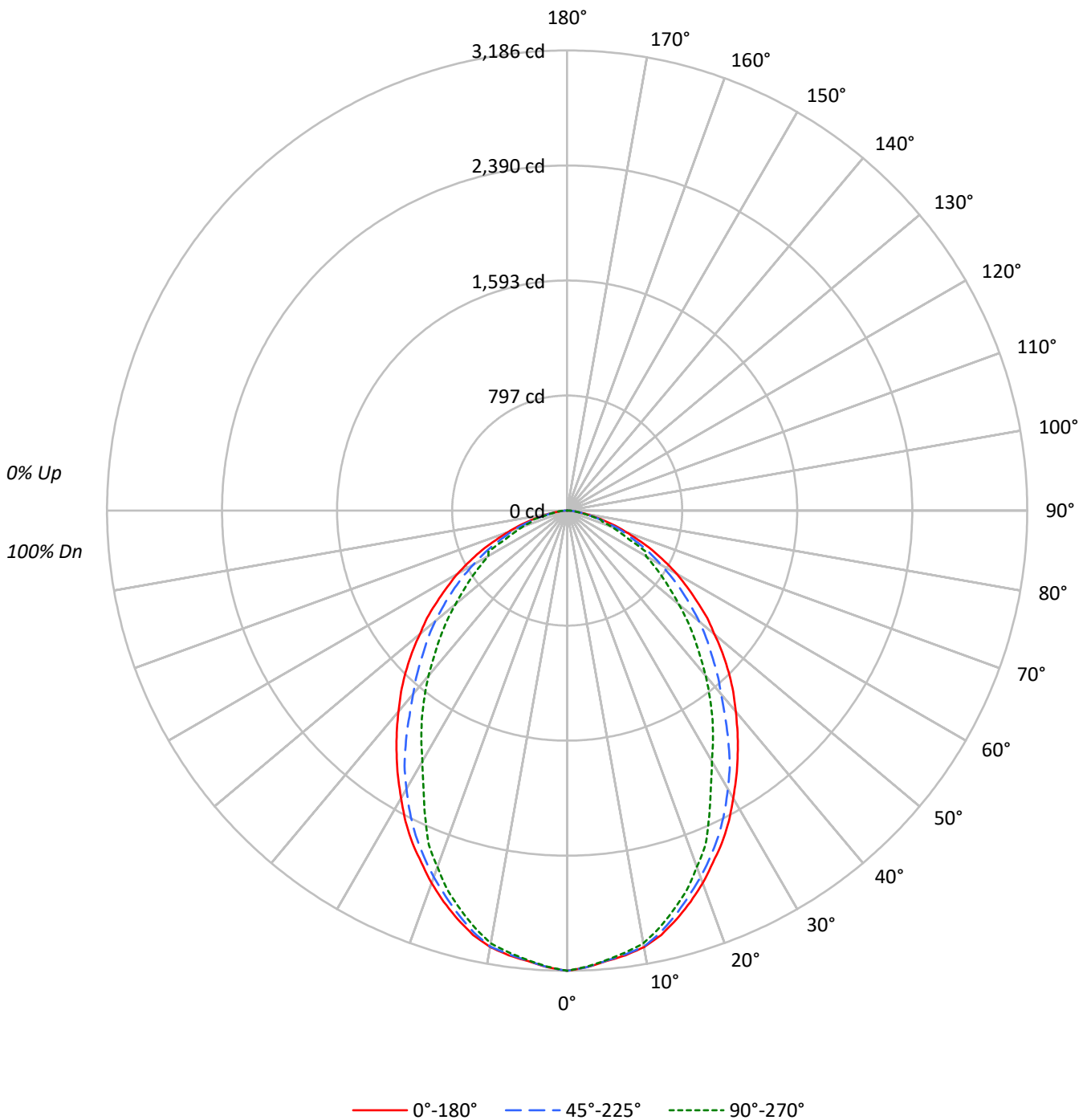
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8574	8574	8574
5°	8458	8448	8438
10°	8384	8374	8314
15°	8158	8076	7963
20°	7859	7732	7521
25°	7535	7372	6912
30°	7142	6913	6226
35°	6764	6389	5760
40°	6379	5823	5240
45°	6014	5383	4738
50°	5567	4996	4225
55°	5150	4528	3785
60°	4718	4044	3390
65°	4152	3542	3002
70°	3420	3101	2550
75°	2719	2375	2489
80°	1827	1712	1598
85°	1136	1365	1593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6014 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	296.6	4.7
10°-20°	814.0	13.0
20°-30°	1126.9	18.0
30°-40°	1201.6	19.2
40°-50°	1096.2	17.5
50°-60°	858.8	13.7
60°-70°	559.7	8.9
70°-80°	248.0	4.0
80°-90°	53.2	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°	2237.5	35.8
0°-40°	3439.1	55.0
0°-60°	5394.1	86.2
0°-90°	6255.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6255.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3186	3186	3186	3186	3186	
5°	3131	3127	3127	3124	3124	297
15°	2928	2928	2899	2869	2858	823
25°	2538	2523	2483	2394	2328	1165
35°	2059	2044	1945	1798	1753	1287
45°	1580	1547	1414	1297	1245	1217
55°	1098	1064	965	851	807	985
65°	652	615	556	567	472	643
75°	262	243	228	217	239	280
85°	37	40	44	48	52	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3186.2	3186.2	3186.2	3186.2	3186.2
2.5°	3164.1	3164.1	3164.1	3160.4	3160.4
5°	3131.0	3127.3	3127.3	3123.6	3123.6
7.5°	3105.2	3101.5	3097.8	3094.1	3086.8
10°	3068.3	3068.3	3064.7	3046.2	3042.6
12.5°	3009.4	3005.7	2991.0	2965.2	2957.8
15°	2928.4	2928.4	2898.9	2869.4	2858.4
17.5°	2840.0	2836.3	2799.4	2770.0	2755.2
20°	2744.2	2736.8	2700.0	2652.1	2626.3
22.5°	2637.4	2637.4	2593.2	2530.6	2504.8
25°	2537.9	2523.2	2482.7	2394.3	2328.0
27.5°	2423.7	2401.6	2357.4	2232.2	2154.8
30°	2298.5	2287.4	2224.8	2062.8	2003.8
32.5°	2180.6	2162.2	2095.9	1926.5	1878.6
35°	2059.1	2044.3	1944.9	1797.5	1753.3
37.5°	1937.5	1919.1	1793.9	1676.0	1620.7
40°	1816.0	1793.9	1657.6	1550.7	1491.8
42.5°	1701.8	1672.3	1539.7	1425.5	1359.2
45°	1580.2	1547.1	1414.5	1296.6	1245.0
47.5°	1458.7	1429.2	1307.6	1186.1	1127.1
50°	1329.7	1304.0	1193.4	1071.9	1009.3
52.5°	1222.9	1182.4	1075.6	954.0	902.5
55°	1097.7	1064.5	965.1	850.9	806.7
57.5°	983.5	950.3	858.3	751.4	714.6
60°	876.7	828.8	751.4	659.3	629.9
62.5°	758.8	722.0	655.7	578.3	615.1
65°	652.0	615.1	556.2	567.3	471.5
67.5°	534.1	515.7	464.1	412.6	397.8
70°	434.7	412.6	394.1	338.9	324.1
72.5°	346.2	324.1	298.4	268.9	257.8
75°	261.5	243.1	228.4	217.3	239.4
77.5°	180.5	173.1	162.1	151.0	147.3
80°	117.9	114.2	110.5	106.8	103.1
82.5°	70.0	70.0	70.0	70.0	70.0
85°	36.8	40.5	44.2	47.9	51.6
87.5°	22.1	22.1	25.8	29.5	33.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)