

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: P561819

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561819
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-40-UNV-82-94-EDD
Description: 1X4 FSR TROFFER WITH .187 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: 6254.0 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

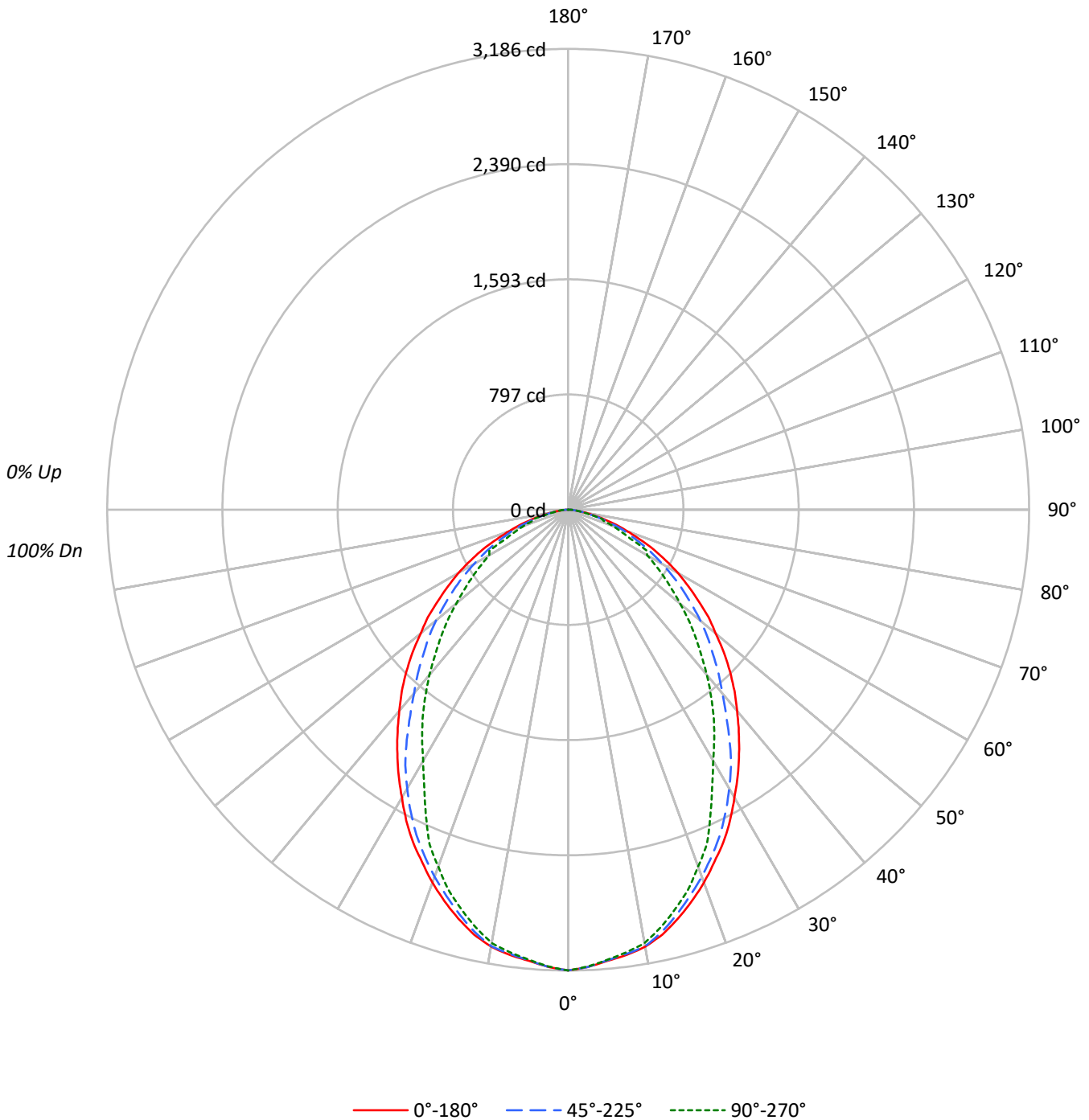
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8573	8573	8573
5°	8456	8446	8436
10°	8383	8373	8313
15°	8157	8075	7962
20°	7857	7731	7520
25°	7534	7370	6911
30°	7141	6912	6225
35°	6763	6388	5759
40°	6378	5822	5240
45°	6013	5382	4737
50°	5566	4996	4225
55°	5149	4527	3784
60°	4717	4043	3390
65°	4151	3541	3002
70°	3419	3101	2550
75°	2719	2374	2489
80°	1827	1712	1598
85°	1136	1365	1593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6013 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	296.5	4.7
10°-20°	813.8	13.0
20°-30°	1126.7	18.0
30°-40°	1201.4	19.2
40°-50°	1096.0	17.5
50°-60°	858.7	13.7
60°-70°	559.6	8.9
70°-80°	247.9	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°	2237.1	35.8
0°-40°	3438.5	55.0
0°-60°	5393.2	86.2
0°-90°	6254.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6254.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3186	3186	3186	3186	3186	
5°	3130	3127	3127	3123	3123	297
15°	2928	2928	2898	2869	2858	823
25°	2538	2523	2482	2394	2328	1165
35°	2059	2044	1945	1797	1753	1287
45°	1580	1547	1414	1296	1245	1217
55°	1098	1064	965	851	807	984
65°	652	615	556	567	471	642
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°	3185.7	3185.7	3185.7	3185.7	3185.7
2.5°	3163.6	3163.6	3163.6	3159.9	3159.9
5°	3130.5	3126.8	3126.8	3123.1	3123.1
7.5°	3104.7	3101.0	3097.3	3093.6	3086.3
10°	3067.9	3067.9	3064.2	3045.8	3042.1
12.5°	3008.9	3005.2	2990.5	2964.7	2957.4
15°	2927.9	2927.9	2898.4	2869.0	2857.9
17.5°	2839.5	2835.8	2799.0	2769.5	2754.8
20°	2743.8	2736.4	2699.6	2651.7	2625.9
22.5°	2637.0	2637.0	2592.8	2530.1	2504.4
25°	2537.5	2522.8	2482.3	2393.9	2327.6
27.5°	2423.3	2401.2	2357.1	2231.8	2154.5
30°	2298.1	2287.1	2224.5	2062.4	2003.5
32.5°	2180.3	2161.9	2095.6	1926.2	1878.3
35°	2058.7	2044.0	1944.6	1797.3	1753.1
37.5°	1937.2	1918.8	1793.6	1675.7	1620.5
40°	1815.7	1793.6	1657.3	1550.5	1491.6
42.5°	1701.5	1672.0	1539.5	1425.3	1359.0
45°	1580.0	1546.8	1414.2	1296.4	1244.8
47.5°	1458.4	1429.0	1307.4	1185.9	1127.0
50°	1329.5	1303.7	1193.3	1071.7	1009.1
52.5°	1222.7	1182.2	1075.4	953.9	902.3
55°	1097.5	1064.4	964.9	850.7	806.6
57.5°	983.3	950.2	858.1	751.3	714.5
60°	876.5	828.7	751.3	659.2	629.8
62.5°	758.7	721.8	655.6	578.2	615.0
65°	651.9	615.0	556.1	567.2	471.4
67.5°	534.0	515.6	464.0	412.5	397.8
70°	434.6	412.5	394.1	338.8	324.1
72.5°	346.2	324.1	298.3	268.9	257.8
75°	261.5	243.1	228.3	217.3	239.4
77.5°	180.5	173.1	162.0	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	33.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)