

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: P590958

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590958
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-40-UNV-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7742.0 lumens
Efficiency: N/A
Efficacy: 116.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

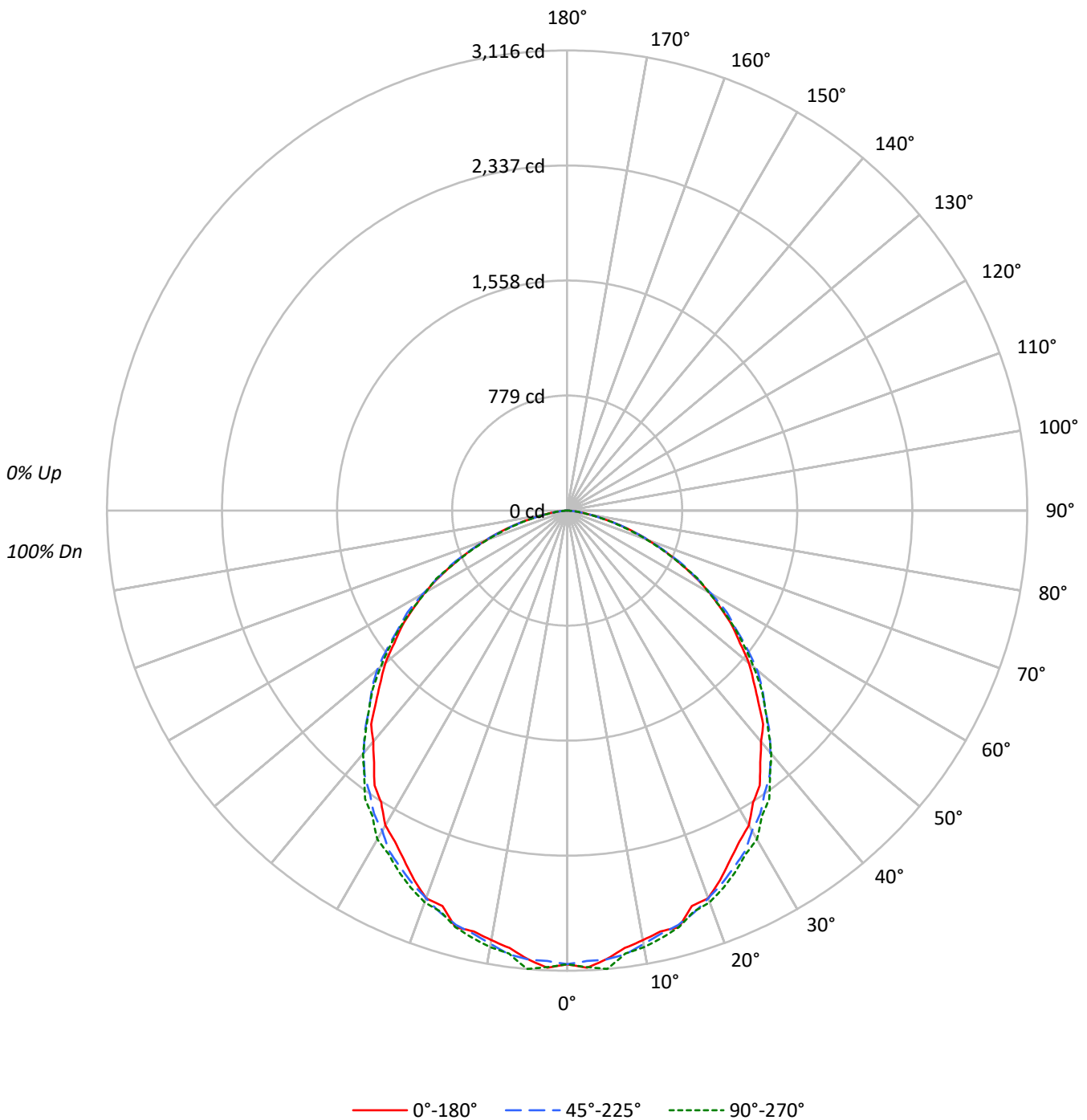
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8266	8266	8266
5°	8239	8242	8416
10°	8072	8142	8200
15°	8136	8092	8137
20°	7998	7998	8084
25°	7752	7922	8009
30°	7646	7780	7987
35°	7466	7661	7833
40°	7175	7521	7554
45°	6958	7206	7216
50°	6730	7034	6899
55°	6412	6537	6490
60°	5996	6056	5947
65°	5346	5483	5308
70°	4587	4603	4475
75°	3633	3624	3484
80°	2435	2366	2273
85°	1321	1309	1226

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7392 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	289.0	3.7
10°-20°	818.9	10.6
20°-30°	1226.9	15.8
30°-40°	1454.1	18.8
40°-50°	1456.8	18.8
50°-60°	1236.6	16.0
60°-70°	833.7	10.8
70°-80°	366.3	4.7
80°-90°	59.5	0.8
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°	2334.8	30.2
0°-40°	3788.9	48.9
0°-60°	6482.4	83.7
0°-90°	7742.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7742.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3072	3072	3072	3072	3072	
5°	3050	3043	3051	3042	3116	288
15°	2920	2887	2904	2920	2921	814
25°	2611	2625	2668	2703	2697	1207
35°	2273	2279	2332	2386	2384	1411
45°	1828	1862	1894	1942	1896	1414
55°	1367	1358	1393	1384	1383	1216
65°	840	828	861	828	834	835
75°	349	342	349	324	335	374
85°	43	42	42	41	40	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3071.8	3071.8	3071.8	3071.8	3071.8
2.5°	3098.4	3075.0	3053.2	3078.6	3094.0
5°	3050.0	3042.9	3051.2	3042.1	3115.5
7.5°	2987.3	3014.7	3030.6	3020.7	3025.0
10°	2954.0	2944.5	2979.8	3004.4	3000.8
12.5°	2918.3	2932.6	2934.6	2961.2	2963.6
15°	2920.3	2886.6	2904.5	2919.5	2920.7
17.5°	2806.9	2843.4	2855.7	2890.2	2847.3
20°	2793.0	2766.4	2793.0	2828.3	2822.8
22.5°	2707.7	2678.0	2735.1	2766.4	2764.4
25°	2611.0	2625.2	2668.1	2703.0	2697.4
27.5°	2526.1	2542.7	2603.8	2651.8	2620.9
30°	2460.6	2452.3	2503.9	2546.7	2570.5
32.5°	2343.6	2373.8	2434.1	2476.5	2453.9
35°	2272.6	2279.4	2332.1	2386.1	2384.5
37.5°	2148.5	2179.8	2254.0	2269.1	2255.2
40°	2042.6	2073.9	2141.0	2157.2	2150.5
42.5°	1964.5	1970.0	2027.5	2046.2	2016.4
45°	1828.4	1862.5	1893.5	1942.3	1896.2
47.5°	1712.6	1728.5	1795.1	1808.2	1784.0
50°	1607.5	1613.1	1680.1	1663.8	1648.0
52.5°	1475.4	1498.8	1536.5	1533.3	1514.7
55°	1366.8	1357.6	1393.3	1383.8	1383.4
57.5°	1236.3	1252.1	1281.5	1266.4	1242.2
60°	1114.1	1114.5	1125.2	1108.2	1105.0
62.5°	978.1	982.8	985.2	964.2	998.3
65°	839.6	828.5	861.1	828.1	833.7
67.5°	712.3	717.9	714.7	694.1	702.0
70°	583.0	590.2	585.0	561.6	568.8
72.5°	464.8	456.1	461.7	432.3	445.8
75°	349.4	342.3	348.6	324.0	335.1
77.5°	238.0	243.5	239.6	226.5	234.0
80°	157.1	152.7	152.7	145.2	146.7
82.5°	91.6	87.3	86.1	83.7	87.3
85°	42.8	41.6	42.4	41.2	39.7
87.5°	15.5	15.9	15.9	15.1	14.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)