

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: P562981

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562981
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-40-UNV-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7654.0 lumens
Efficiency: N/A
Efficacy: 114.9 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

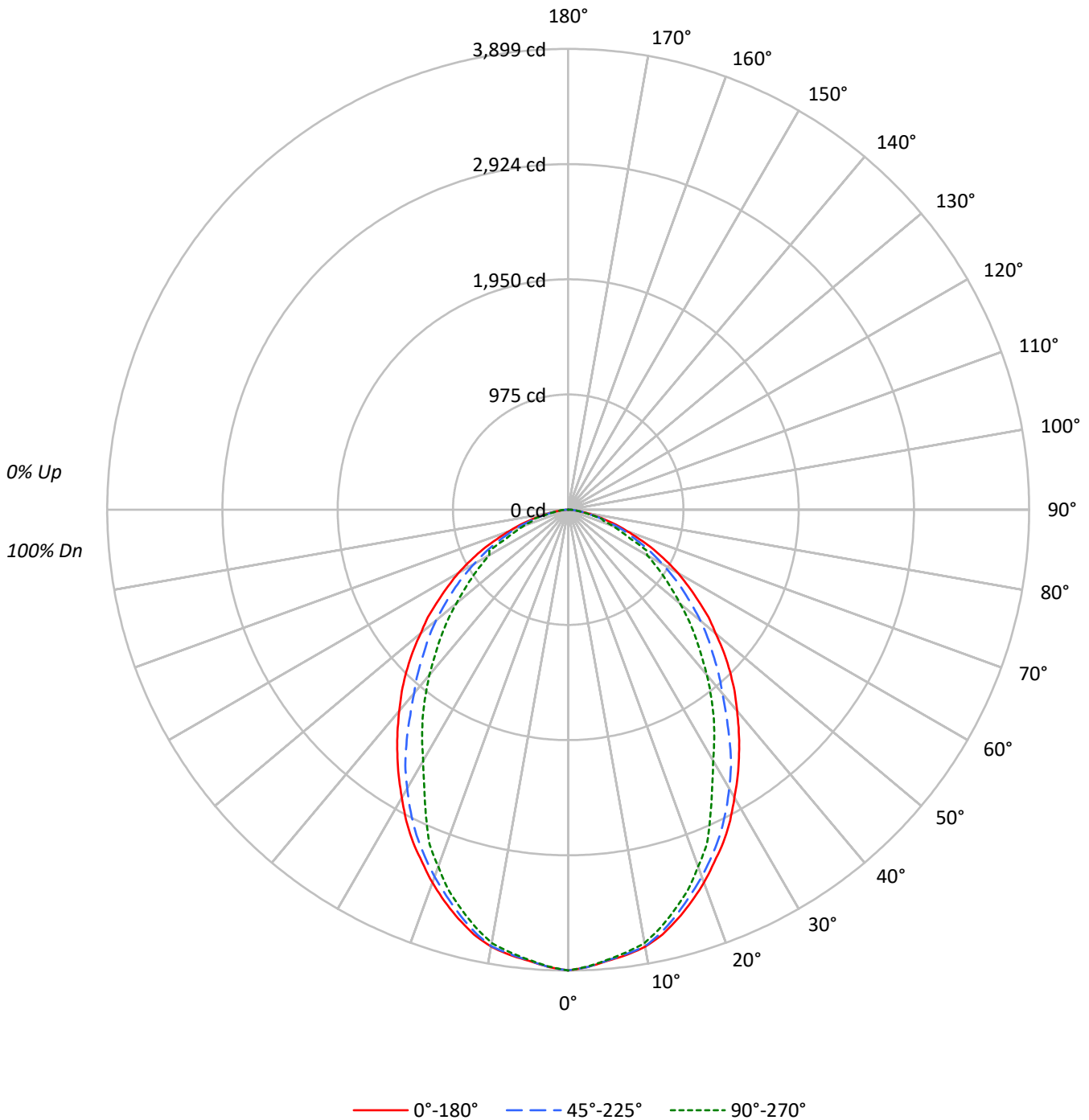
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5246	5246	5246
5°	5175	5168	5162
10°	5130	5124	5087
15°	4991	4941	4872
20°	4808	4731	4602
25°	4611	4510	4229
30°	4370	4230	3810
35°	4139	3909	3524
40°	3903	3563	3206
45°	3679	3293	2899
50°	3406	3057	2585
55°	3151	2770	2316
60°	2887	2474	2074
65°	2540	2167	1837
70°	2092	1897	1560
75°	1664	1453	1523
80°	1117	1048	978
85°	696	835	974

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3679 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	362.9	4.7
10°-20°	996.0	13.0
20°-30°	1378.9	18.0
30°-40°	1470.4	19.2
40°-50°	1341.4	17.5
50°-60°	1050.9	13.7
60°-70°	684.9	8.9
70°-80°	303.4	4.0
80°-90°	65.1	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°	2737.9	35.8
0°-40°	4208.3	55.0
0°-60°	6600.5	86.2
0°-90°	7654.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7654.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3899	3899	3899	3899	3899	
5°	3831	3827	3827	3822	3822	364
15°	3583	3583	3547	3511	3498	1007
25°	3106	3088	3038	2930	2849	1426
35°	2520	2502	2380	2200	2146	1575
45°	1934	1893	1731	1587	1524	1489
55°	1343	1303	1181	1041	987	1205
65°	798	753	681	694	577	786
75°	320	298	280	266	293	343
85°	45	50	54	59	63	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3898.8	3898.8	3898.8	3898.8	3898.8
2.5°	3871.8	3871.8	3871.8	3867.3	3867.3
5°	3831.2	3826.7	3826.7	3822.2	3822.2
7.5°	3799.7	3795.2	3790.7	3786.2	3777.1
10°	3754.6	3754.6	3750.1	3727.6	3723.1
12.5°	3682.5	3678.0	3660.0	3628.4	3619.4
15°	3583.3	3583.3	3547.3	3511.2	3497.7
17.5°	3475.2	3470.6	3425.6	3389.5	3371.5
20°	3358.0	3349.0	3303.9	3245.3	3213.7
22.5°	3227.3	3227.3	3173.2	3096.5	3065.0
25°	3105.6	3087.5	3037.9	2929.8	2848.6
27.5°	2965.8	2938.8	2884.7	2731.4	2636.8
30°	2812.6	2799.1	2722.4	2524.1	2452.0
32.5°	2668.3	2645.8	2564.7	2357.3	2298.7
35°	2519.6	2501.6	2379.9	2199.6	2145.5
37.5°	2370.9	2348.3	2195.1	2050.8	1983.2
40°	2222.1	2195.1	2028.3	1897.6	1825.5
42.5°	2082.4	2046.3	1884.1	1744.3	1663.2
45°	1933.6	1893.1	1730.8	1586.6	1523.5
47.5°	1784.9	1748.8	1600.1	1451.4	1379.2
50°	1627.1	1595.6	1460.4	1311.6	1235.0
52.5°	1496.4	1446.9	1316.1	1167.4	1104.3
55°	1343.2	1302.6	1180.9	1041.2	987.1
57.5°	1203.5	1162.9	1050.2	919.5	874.4
60°	1072.7	1014.2	919.5	806.8	770.8
62.5°	928.5	883.4	802.3	707.7	752.7
65°	797.8	752.7	680.6	694.1	576.9
67.5°	653.6	631.0	567.9	504.8	486.8
70°	531.9	504.8	482.3	414.7	396.6
72.5°	423.7	396.6	365.1	329.0	315.5
75°	320.0	297.5	279.5	265.9	293.0
77.5°	220.9	211.8	198.3	184.8	180.3
80°	144.2	139.7	135.2	130.7	126.2
82.5°	85.6	85.6	85.6	85.6	85.6
85°	45.1	49.6	54.1	58.6	63.1
87.5°	27.0	27.0	31.6	36.1	40.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)