

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: P563740

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563740
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-LD4-4HI-40-UNV-82-96-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14978.0 lumens
Efficiency: N/A
Efficacy: 86.7 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

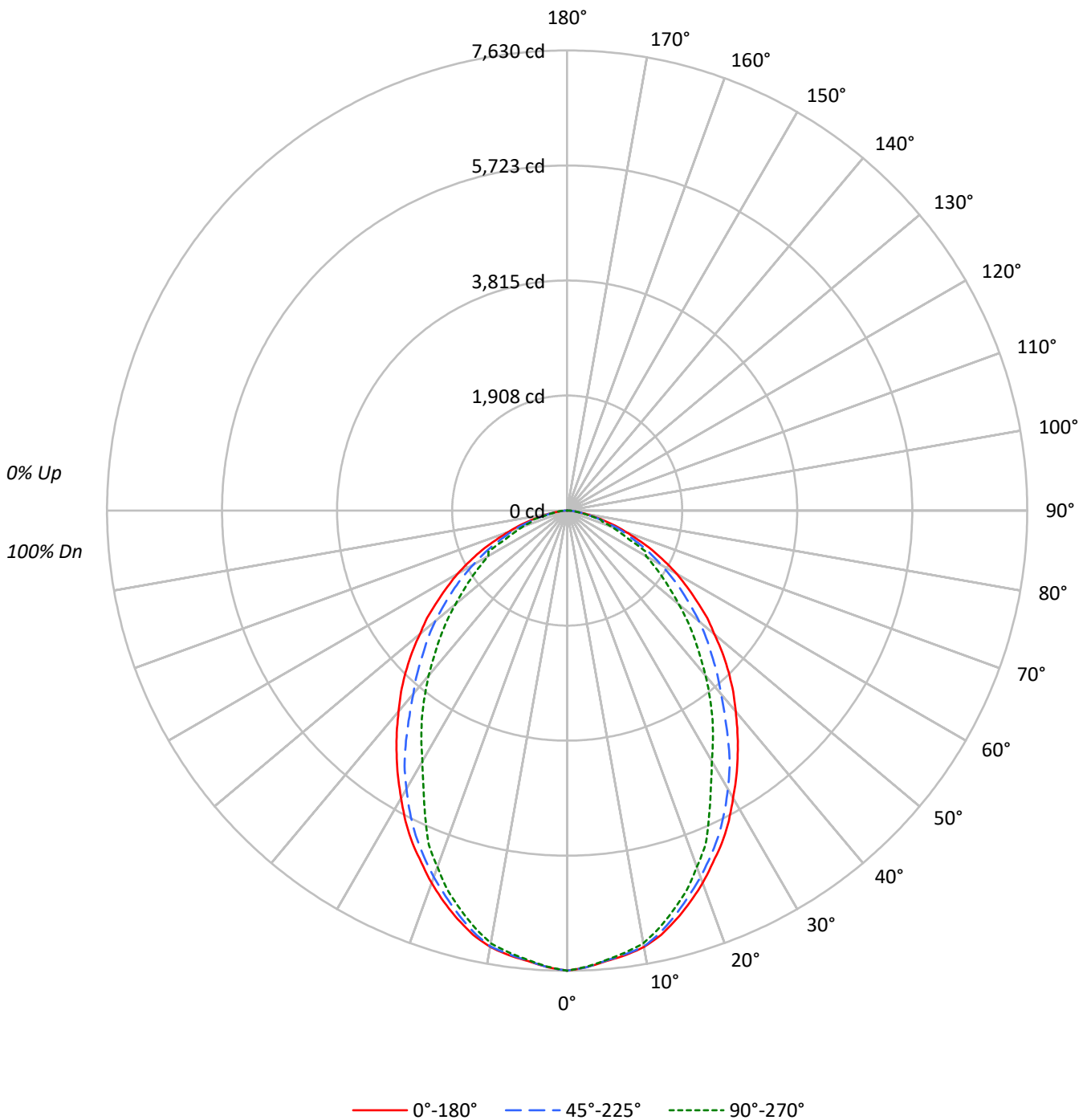
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10266	10266	10266
5°	10126	10114	10102
10°	10038	10026	9954
15°	9768	9669	9534
20°	9409	9257	9005
25°	9022	8826	8276
30°	8551	8277	7455
35°	8099	7649	6896
40°	7638	6972	6274
45°	7200	6445	5673
50°	6665	5982	5059
55°	6166	5421	4531
60°	5649	4842	4059
65°	4970	4240	3594
70°	4094	3713	3054
75°	3255	2843	2980
80°	2187	2050	1914
85°	1362	1633	1907

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7200 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	710.2	4.7
10°-20°	1949.1	13.0
20°-30°	2698.4	18.0
30°-40°	2877.3	19.2
40°-50°	2624.9	17.5
50°-60°	2056.4	13.7
60°-70°	1340.3	8.9
70°-80°	593.8	4.0
80°-90°	127.5	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°	5357.8	35.8
0°-40°	8235.1	55.0
0°-60°	12916.4	86.2
0°-90°	14978.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14978.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7630	7630	7630	7630	7630	
5°	7497	7488	7488	7480	7480	712
15°	7012	7012	6942	6871	6845	1971
25°	6077	6042	5945	5733	5574	2790
35°	4931	4895	4657	4304	4198	3082
45°	3784	3704	3387	3105	2981	2915
55°	2628	2549	2311	2038	1932	2358
65°	1561	1473	1332	1358	1129	1539
75°	626	582	547	520	573	671
85°	88	97	106	115	124	122
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7629.6	7629.6	7629.6	7629.6	7629.6
2.5°	7576.7	7576.7	7576.7	7567.9	7567.9
5°	7497.3	7488.5	7488.5	7479.6	7479.6
7.5°	7435.5	7426.7	7417.9	7409.1	7391.4
10°	7347.3	7347.3	7338.5	7294.4	7285.6
12.5°	7206.2	7197.4	7162.1	7100.4	7082.7
15°	7012.2	7012.2	6941.6	6871.0	6844.6
17.5°	6800.5	6791.7	6703.5	6632.9	6597.6
20°	6571.2	6553.5	6465.3	6350.6	6288.9
22.5°	6315.4	6315.4	6209.5	6059.6	5997.8
25°	6077.2	6041.9	5944.9	5733.2	5574.5
27.5°	5803.8	5750.9	5645.0	5345.1	5159.9
30°	5503.9	5477.4	5327.5	4939.4	4798.3
32.5°	5221.6	5177.5	5018.8	4613.0	4498.4
35°	4930.6	4895.3	4657.1	4304.3	4198.5
37.5°	4639.5	4595.4	4295.5	4013.3	3880.9
40°	4348.4	4295.5	3969.2	3713.4	3572.2
42.5°	4075.0	4004.4	3686.9	3413.5	3254.7
45°	3783.9	3704.5	3387.0	3104.8	2981.3
47.5°	3492.9	3422.3	3131.2	2840.1	2699.0
50°	3184.1	3122.4	2857.8	2566.7	2416.8
52.5°	2928.4	2831.3	2575.5	2284.5	2161.0
55°	2628.5	2549.1	2310.9	2037.5	1931.7
57.5°	2355.0	2275.6	2055.1	1799.3	1711.1
60°	2099.2	1984.6	1799.3	1578.8	1508.3
62.5°	1817.0	1728.8	1570.0	1384.8	1473.0
65°	1561.2	1473.0	1331.9	1358.3	1129.0
67.5°	1278.9	1234.8	1111.4	987.9	952.6
70°	1040.8	987.9	943.8	811.5	776.2
72.5°	829.1	776.2	714.4	643.9	617.4
75°	626.2	582.1	546.9	520.4	573.3
77.5°	432.2	414.6	388.1	361.6	352.8
80°	282.3	273.4	264.6	255.8	247.0
82.5°	167.6	167.6	167.6	167.6	167.6
85°	88.2	97.0	105.8	114.7	123.5
87.5°	52.9	52.9	61.7	70.6	79.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)