

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: P563561

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563561
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-LD4-3STD-40-UNV-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10004.0 lumens
Efficiency: N/A
Efficacy: 100.1 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

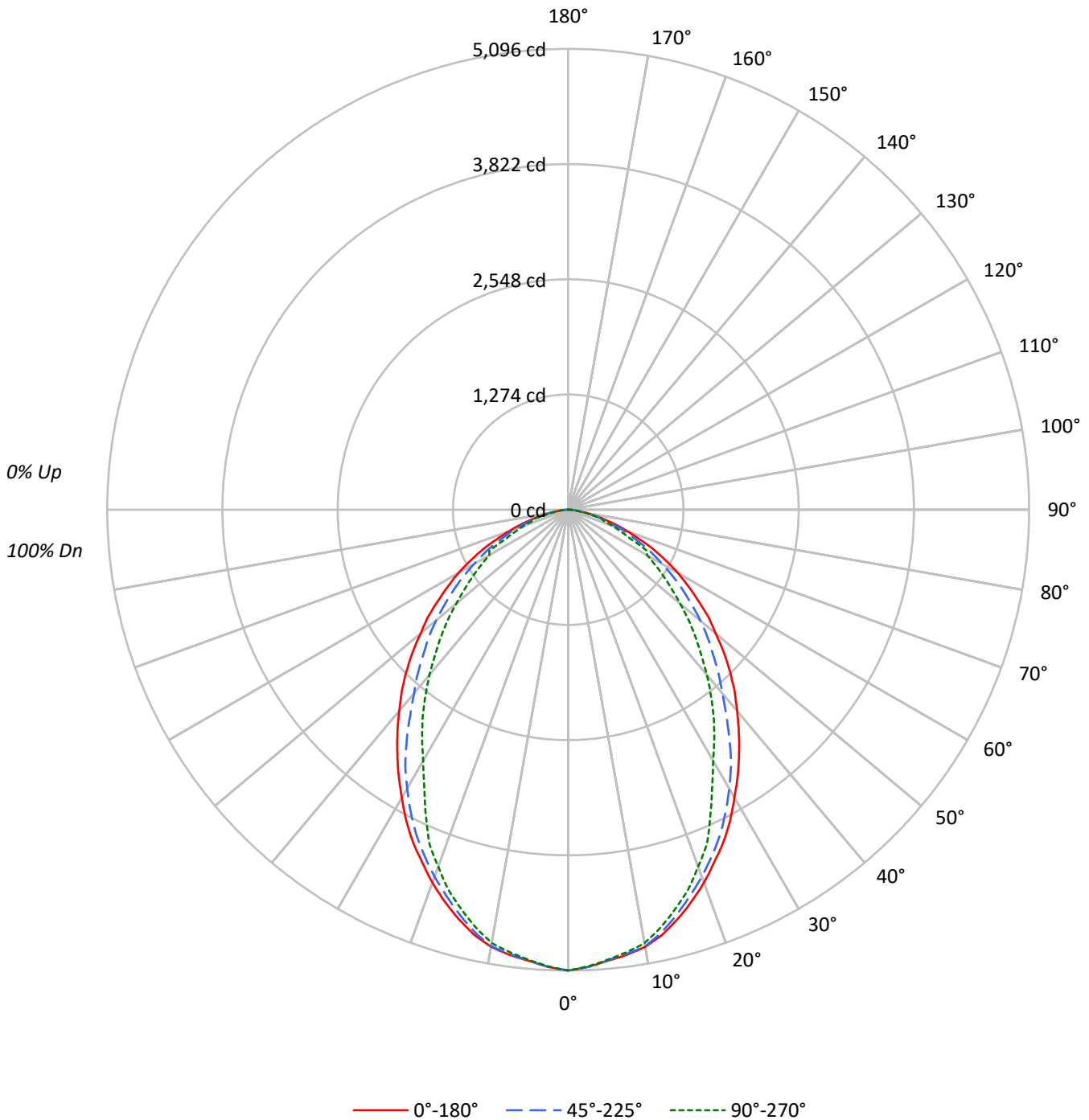
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6856	6856	6856
5°	6763	6755	6747
10°	6705	6697	6648
15°	6524	6458	6368
20°	6284	6183	6014
25°	6026	5895	5528
30°	5711	5528	4979
35°	5409	5109	4606
40°	5101	4656	4191
45°	4809	4305	3789
50°	4452	3996	3379
55°	4118	3621	3027
60°	3773	3234	2711
65°	3320	2832	2401
70°	2735	2480	2039
75°	2175	1899	1991
80°	1461	1369	1278
85°	909	1091	1274

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4809 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	474.4	4.7
10°-20°	1301.8	13.0
20°-30°	1802.3	18.0
30°-40°	1921.8	19.2
40°-50°	1753.2	17.5
50°-60°	1373.5	13.7
60°-70°	895.2	8.9
70°-80°	396.6	4.0
80°-90°	85.1	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°	3578.5	35.8
0°-40°	5500.3	55.0
0°-60°	8627.0	86.2
0°-90°	10004.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10004.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5096	5096	5096	5096	5096	
5°	5008	5002	5002	4996	4996	475
15°	4684	4684	4636	4589	4572	1317
25°	4059	4036	3971	3829	3723	1863
35°	3293	3270	3111	2875	2804	2059
45°	2527	2474	2262	2074	1991	1947
55°	1756	1703	1544	1361	1290	1575
65°	1043	984	890	907	754	1028
75°	418	389	365	348	383	448
85°	59	65	71	77	82	82
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5095.9	5095.9	5095.9	5095.9	5095.9
2.5°	5060.6	5060.6	5060.6	5054.7	5054.7
5°	5007.5	5001.6	5001.6	4995.8	4995.8
7.5°	4966.3	4960.4	4954.5	4948.6	4936.8
10°	4907.4	4907.4	4901.5	4872.0	4866.1
12.5°	4813.1	4807.2	4783.7	4742.4	4730.6
15°	4683.5	4683.5	4636.4	4589.3	4571.6
17.5°	4542.1	4536.2	4477.3	4430.2	4406.6
20°	4389.0	4377.2	4318.3	4241.7	4200.4
22.5°	4218.1	4218.1	4147.4	4047.3	4006.0
25°	4059.0	4035.5	3970.7	3829.3	3723.3
27.5°	3876.4	3841.1	3770.4	3570.1	3446.4
30°	3676.1	3658.4	3558.3	3299.1	3204.8
32.5°	3487.6	3458.1	3352.1	3081.1	3004.5
35°	3293.2	3269.6	3110.6	2874.9	2804.2
37.5°	3098.8	3069.3	2869.0	2680.5	2592.1
40°	2904.4	2869.0	2651.0	2480.2	2385.9
42.5°	2721.7	2674.6	2462.5	2279.9	2173.9
45°	2527.3	2474.3	2262.2	2073.7	1991.2
47.5°	2332.9	2285.8	2091.4	1897.0	1802.7
50°	2126.7	2085.5	1908.8	1714.3	1614.2
52.5°	1955.9	1891.1	1720.2	1525.8	1443.3
55°	1755.6	1702.6	1543.5	1360.9	1290.2
57.5°	1573.0	1519.9	1372.7	1201.8	1142.9
60°	1402.1	1325.5	1201.8	1054.5	1007.4
62.5°	1213.6	1154.7	1048.6	924.9	983.8
65°	1042.7	983.8	889.6	907.2	754.1
67.5°	854.2	824.8	742.3	659.8	636.3
70°	695.2	659.8	630.4	542.0	518.4
72.5°	553.8	518.4	477.2	430.1	412.4
75°	418.3	388.8	365.3	347.6	382.9
77.5°	288.7	276.9	259.2	241.5	235.6
80°	188.5	182.6	176.7	170.8	165.0
82.5°	111.9	111.9	111.9	111.9	111.9
85°	58.9	64.8	70.7	76.6	82.5
87.5°	35.3	35.3	41.2	47.1	53.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)