

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: P563778

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563778
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-50-UNV-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15931.0 lumens
Efficiency: N/A
Efficacy: 92.2 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

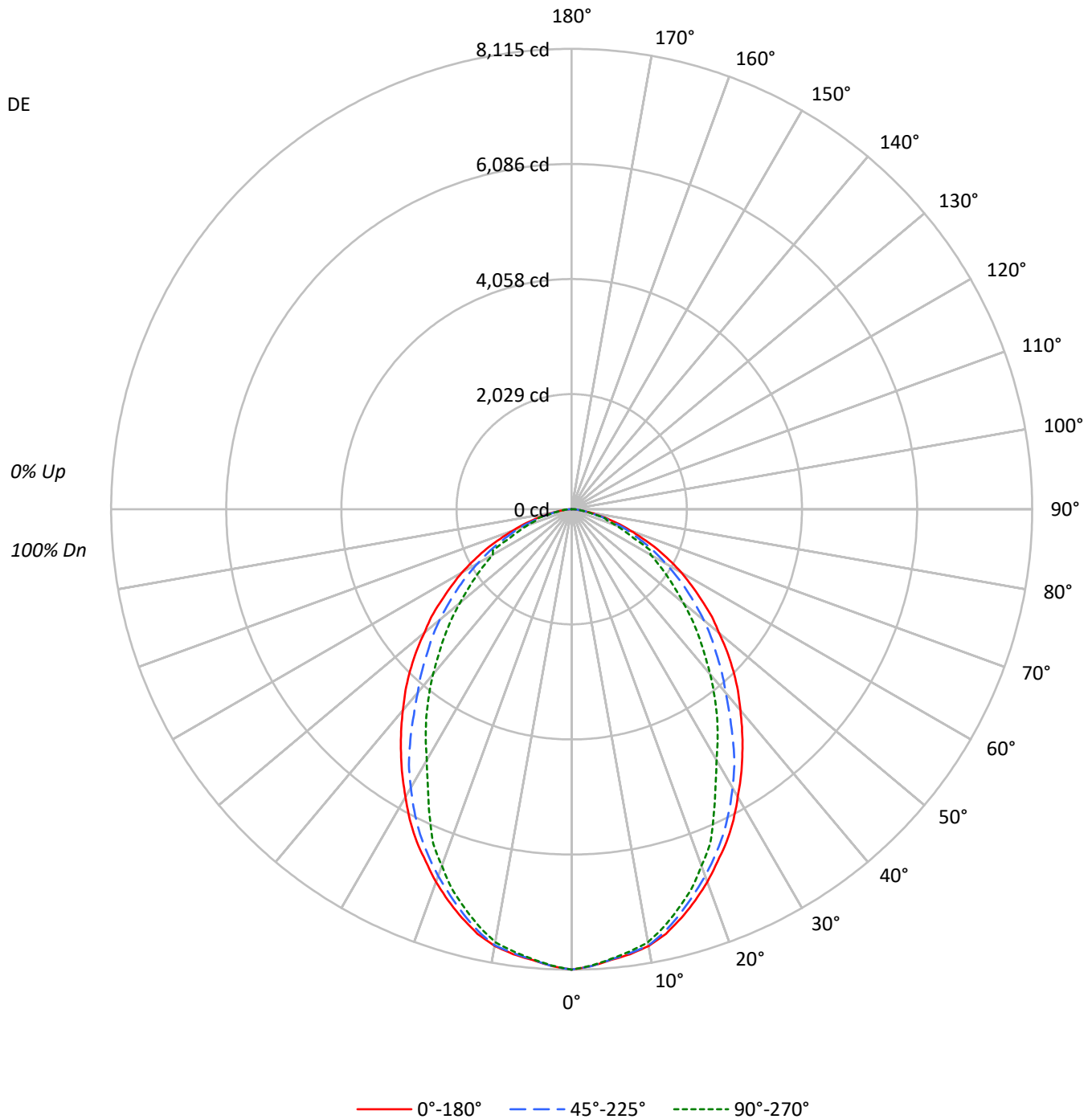
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													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°	10919	10919	10919
5°	10770	10758	10745
10°	10677	10664	10587
15°	10389	10285	10141
20°	10008	9846	9578
25°	9596	9387	8802
30°	9095	8804	7929
35°	8614	8136	7335
40°	8124	7415	6673
45°	7658	6855	6034
50°	7089	6363	5381
55°	6558	5766	4820
60°	6008	5150	4317
65°	5287	4510	3823
70°	4355	3949	3248
75°	3463	3024	3170
80°	2326	2180	2035
85°	1448	1738	2027

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7658 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	755.4	4.7
10°-20°	2073.1	13.0
20°-30°	2870.1	18.0
30°-40°	3060.4	19.2
40°-50°	2792.0	17.5
50°-60°	2187.3	13.7
60°-70°	1425.5	8.9
70°-80°	631.6	4.0
80°-90°	135.6	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°	5698.7	35.8
0°-40°	8759.0	55.0
0°-60°	13738.3	86.2
0°-90°	15931.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15931.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8115	8115	8115	8115	8115	
5°	7974	7965	7965	7956	7956	757
15°	7458	7458	7383	7308	7280	2097
25°	6464	6426	6323	6098	5929	2968
35°	5244	5207	4954	4578	4466	3279
45°	4025	3940	3602	3302	3171	3100
55°	2796	2711	2458	2167	2055	2508
65°	1660	1567	1417	1445	1201	1636
75°	666	619	582	554	610	714
85°	94	103	113	122	131	130
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8115.0	8115.0	8115.0	8115.0	8115.0
2.5°	8058.7	8058.7	8058.7	8049.4	8049.4
5°	7974.3	7964.9	7964.9	7955.6	7955.6
7.5°	7908.6	7899.3	7889.9	7880.5	7861.7
10°	7814.8	7814.8	7805.4	7758.5	7749.2
12.5°	7664.7	7655.3	7617.8	7552.1	7533.4
15°	7458.3	7458.3	7383.3	7308.2	7280.1
17.5°	7233.2	7223.8	7130.0	7054.9	7017.4
20°	6989.3	6970.5	6876.7	6754.7	6689.0
22.5°	6717.2	6717.2	6604.6	6445.1	6379.5
25°	6463.9	6426.4	6323.2	6098.0	5929.1
27.5°	6173.1	6116.8	6004.2	5685.2	5488.2
30°	5854.1	5825.9	5666.5	5253.7	5103.6
32.5°	5553.9	5507.0	5338.1	4906.5	4784.6
35°	5244.3	5206.8	4953.5	4578.2	4465.6
37.5°	4934.7	4887.8	4568.8	4268.6	4127.9
40°	4625.1	4568.8	4221.7	3949.6	3799.5
42.5°	4334.3	4259.2	3921.5	3630.7	3461.8
45°	4024.7	3940.2	3602.5	3302.3	3171.0
47.5°	3715.1	3640.0	3330.4	3020.9	2870.8
50°	3386.7	3321.1	3039.6	2730.0	2570.5
52.5°	3114.7	3011.5	2739.4	2429.8	2298.5
55°	2795.7	2711.3	2458.0	2167.1	2054.6
57.5°	2504.9	2420.4	2185.9	1913.8	1820.0
60°	2232.8	2110.8	1913.8	1679.3	1604.2
62.5°	1932.6	1838.8	1669.9	1472.9	1566.7
65°	1660.5	1566.7	1416.6	1444.8	1200.8
67.5°	1360.3	1313.4	1182.1	1050.7	1013.2
70°	1107.0	1050.7	1003.8	863.1	825.6
72.5°	881.9	825.6	759.9	684.9	656.7
75°	666.1	619.2	581.7	553.5	609.8
77.5°	459.7	440.9	412.8	384.6	375.3
80°	300.2	290.8	281.4	272.1	262.7
82.5°	178.2	178.2	178.2	178.2	178.2
85°	93.8	103.2	112.6	122.0	131.3
87.5°	56.3	56.3	65.7	75.1	84.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)