

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: P564006

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564006
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-LD4-4LO-50-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9786.0 lumens
Efficiency: N/A
Efficacy: 104.6 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

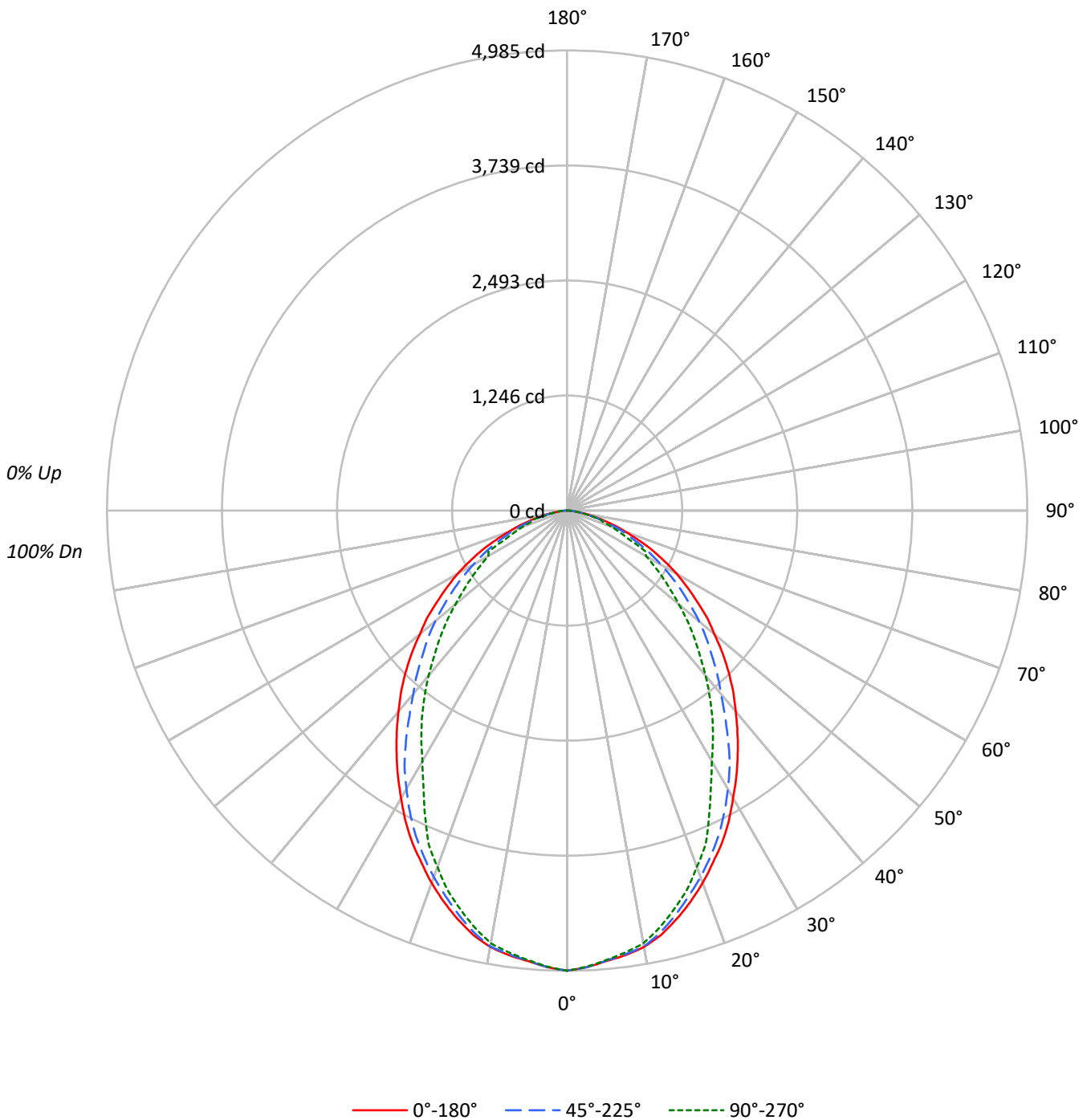
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6707	6707	6707
5°	6616	6608	6600
10°	6559	6551	6503
15°	6382	6318	6229
20°	6147	6048	5883
25°	5895	5766	5407
30°	5587	5408	4871
35°	5291	4998	4506
40°	4990	4555	4099
45°	4704	4211	3706
50°	4355	3908	3305
55°	4028	3542	2961
60°	3691	3164	2652
65°	3247	2770	2348
70°	2675	2426	1995
75°	2127	1857	1947
80°	1429	1340	1251
85°	889	1068	1246

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4704 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	464.0	4.7
10°-20°	1273.5	13.0
20°-30°	1763.0	18.0
30°-40°	1879.9	19.2
40°-50°	1715.0	17.5
50°-60°	1343.6	13.7
60°-70°	875.7	8.9
70°-80°	388.0	4.0
80°-90°	83.3	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°	3500.5	35.8
0°-40°	5380.5	55.0
0°-60°	8439.1	86.2
0°-90°	9786.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9786.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4985	4985	4985	4985	4985	
5°	4898	4893	4893	4887	4887	465
15°	4582	4582	4535	4489	4472	1288
25°	3971	3948	3884	3746	3642	1823
35°	3221	3198	3043	2812	2743	2014
45°	2472	2420	2213	2028	1948	1904
55°	1717	1666	1510	1331	1262	1540
65°	1020	962	870	888	738	1005
75°	409	380	357	340	375	439
85°	58	63	69	75	81	80
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4984.9	4984.9	4984.9	4984.9	4984.9
2.5°	4950.3	4950.3	4950.3	4944.5	4944.5
5°	4898.4	4892.7	4892.7	4886.9	4886.9
7.5°	4858.1	4852.3	4846.5	4840.8	4829.3
10°	4800.4	4800.4	4794.7	4765.9	4760.1
12.5°	4708.2	4702.5	4679.4	4639.1	4627.6
15°	4581.5	4581.5	4535.4	4489.3	4472.0
17.5°	4443.2	4437.4	4379.8	4333.7	4310.6
20°	4293.3	4281.8	4224.2	4149.2	4108.9
22.5°	4126.2	4126.2	4057.0	3959.1	3918.7
25°	3970.6	3947.5	3884.2	3745.8	3642.1
27.5°	3791.9	3757.4	3688.2	3492.3	3371.3
30°	3596.0	3578.7	3480.8	3227.2	3135.0
32.5°	3411.6	3382.8	3279.1	3014.0	2939.0
35°	3221.4	3198.4	3042.8	2812.3	2743.1
37.5°	3031.3	3002.4	2806.5	2622.1	2535.7
40°	2841.1	2806.5	2593.3	2426.2	2334.0
42.5°	2662.4	2616.3	2408.9	2230.2	2126.5
45°	2472.3	2420.4	2212.9	2028.5	1947.8
47.5°	2282.1	2236.0	2045.8	1855.6	1763.4
50°	2080.4	2040.0	1867.2	1677.0	1579.0
52.5°	1913.3	1849.9	1682.7	1492.6	1411.9
55°	1717.3	1665.5	1509.9	1331.2	1262.1
57.5°	1538.7	1486.8	1342.7	1175.6	1118.0
60°	1371.6	1296.6	1175.6	1031.5	985.4
62.5°	1187.1	1129.5	1025.8	904.8	962.4
65°	1020.0	962.4	870.2	887.5	737.6
67.5°	835.6	806.8	726.1	645.4	622.4
70°	680.0	645.4	616.6	530.2	507.1
72.5°	541.7	507.1	466.8	420.7	403.4
75°	409.2	380.3	357.3	340.0	374.6
77.5°	282.4	270.9	253.6	236.3	230.5
80°	184.4	178.6	172.9	167.1	161.4
82.5°	109.5	109.5	109.5	109.5	109.5
85°	57.6	63.4	69.2	74.9	80.7
87.5°	34.6	34.6	40.3	46.1	51.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)