

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: P563488

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563488
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-35-UNV-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9815.0 lumens
Efficiency: N/A
Efficacy: 98.2 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

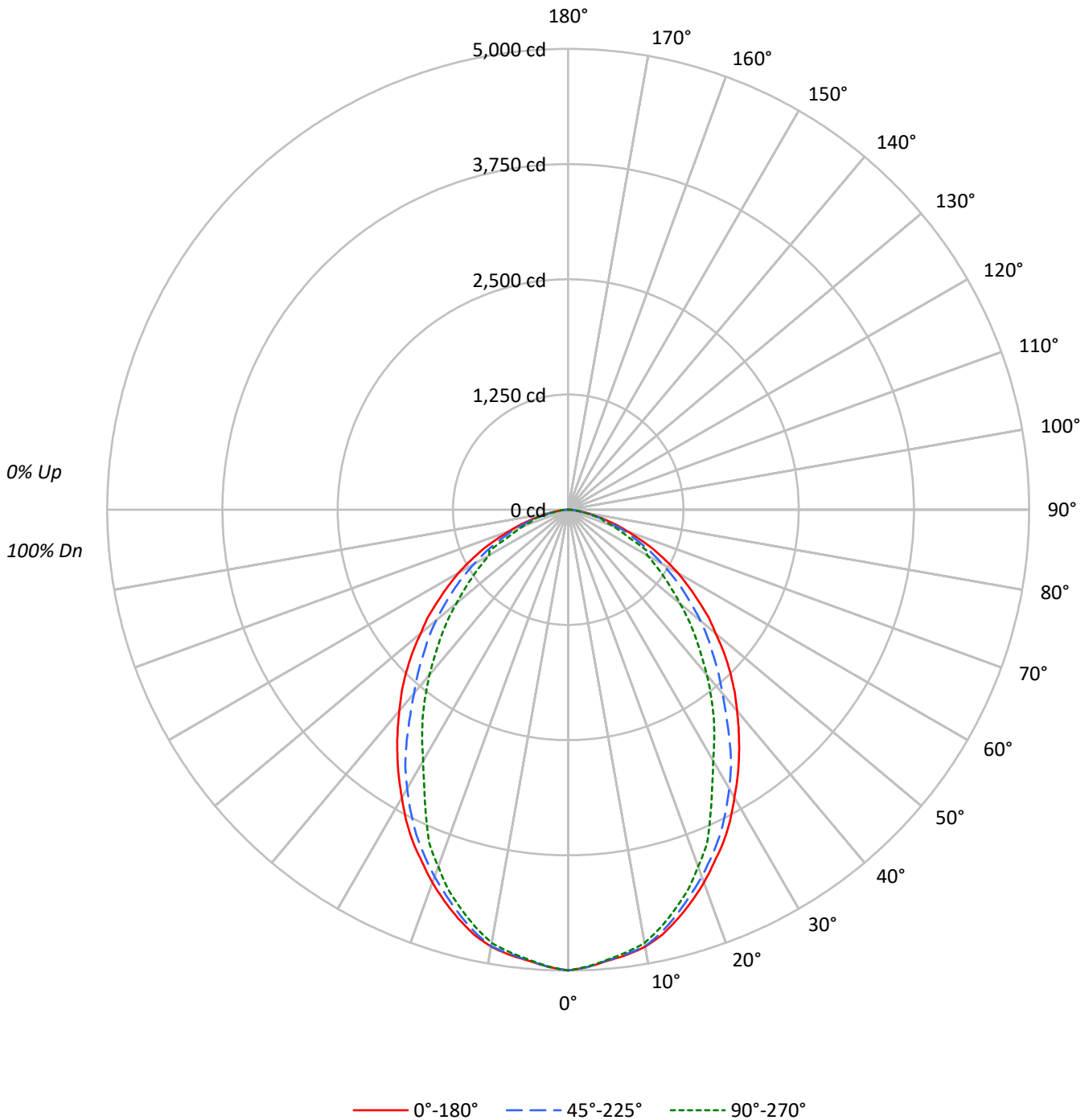
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6727	6727	6727
5°	6636	6628	6620
10°	6578	6570	6523
15°	6401	6336	6248
20°	6166	6066	5901
25°	5912	5783	5423
30°	5604	5424	4885
35°	5307	5013	4519
40°	5005	4568	4112
45°	4718	4223	3717
50°	4368	3920	3315
55°	4040	3552	2969
60°	3702	3173	2660
65°	3257	2779	2355
70°	2683	2433	2001
75°	2133	1863	1953
80°	1433	1344	1254
85°	892	1071	1249

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4718 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	465.4	4.7
10°-20°	1277.2	13.0
20°-30°	1768.3	18.0
30°-40°	1885.5	19.2
40°-50°	1720.1	17.5
50°-60°	1347.6	13.7
60°-70°	878.3	8.9
70°-80°	389.1	4.0
80°-90°	83.5	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°	3510.9	35.8
0°-40°	5396.4	55.0
0°-60°	8464.1	86.2
0°-90°	9815.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9815.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5000	5000	5000	5000	5000	
5°	4913	4907	4907	4901	4901	466
15°	4595	4595	4549	4503	4485	1292
25°	3982	3959	3896	3757	3653	1828
35°	3231	3208	3052	2821	2751	2020
45°	2480	2428	2220	2034	1954	1910
55°	1722	1670	1514	1335	1266	1545
65°	1023	965	873	890	740	1008
75°	410	382	358	341	376	440
85°	58	64	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°	4999.6	4999.6	4999.6	4999.6	4999.6
2.5°	4965.0	4965.0	4965.0	4959.2	4959.2
5°	4912.9	4907.2	4907.2	4901.4	4901.4
7.5°	4872.5	4866.7	4860.9	4855.1	4843.6
10°	4814.7	4814.7	4808.9	4780.0	4774.2
12.5°	4722.2	4716.4	4693.3	4652.8	4641.3
15°	4595.0	4595.0	4548.8	4502.6	4485.2
17.5°	4456.3	4450.5	4392.7	4346.5	4323.4
20°	4306.0	4294.5	4236.7	4161.5	4121.1
22.5°	4138.4	4138.4	4069.1	3970.8	3930.3
25°	3982.4	3959.2	3895.7	3756.9	3652.9
27.5°	3803.2	3768.5	3699.1	3502.6	3381.3
30°	3606.7	3589.3	3491.1	3236.8	3144.3
32.5°	3421.7	3392.8	3288.8	3022.9	2947.8
35°	3231.0	3207.9	3051.8	2820.6	2751.2
37.5°	3040.2	3011.3	2814.8	2629.9	2543.2
40°	2849.5	2814.8	2601.0	2433.3	2340.9
42.5°	2670.3	2624.1	2416.0	2236.8	2132.8
45°	2479.6	2427.6	2219.5	2034.5	1953.6
47.5°	2288.8	2242.6	2051.9	1861.1	1768.7
50°	2086.6	2046.1	1872.7	1682.0	1583.7
52.5°	1918.9	1855.4	1687.7	1497.0	1416.1
55°	1722.4	1670.4	1514.3	1335.2	1265.8
57.5°	1543.2	1491.2	1346.7	1179.1	1121.3
60°	1375.6	1300.5	1179.1	1034.6	988.4
62.5°	1190.7	1132.9	1028.8	907.4	965.2
65°	1023.0	965.2	872.8	890.1	739.8
67.5°	838.1	809.2	728.3	647.4	624.2
70°	682.0	647.4	618.5	531.8	508.6
72.5°	543.3	508.6	468.2	421.9	404.6
75°	410.4	381.5	358.4	341.0	375.7
77.5°	283.2	271.7	254.3	237.0	231.2
80°	185.0	179.2	173.4	167.6	161.8
82.5°	109.8	109.8	109.8	109.8	109.8
85°	57.8	63.6	69.4	75.1	80.9
87.5°	34.7	34.7	40.5	46.2	52.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)