

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: P563622

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563622
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-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: 9829.0 lumens
Efficiency: N/A
Efficacy: 98.4 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

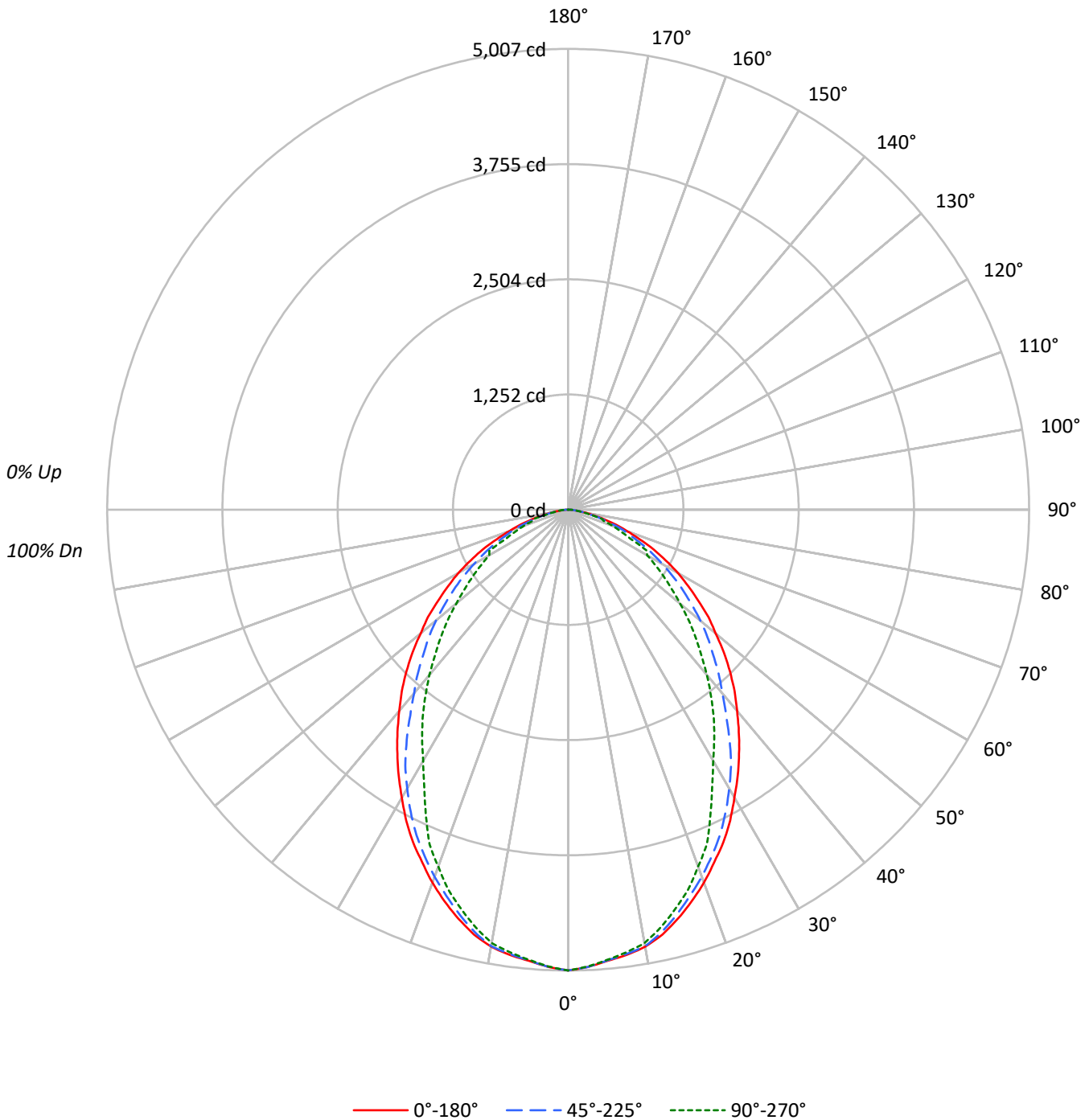
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6737	6737	6737
5°	6645	6637	6629
10°	6587	6580	6532
15°	6410	6345	6257
20°	6174	6075	5909
25°	5921	5792	5431
30°	5611	5432	4892
35°	5315	5020	4526
40°	5012	4575	4117
45°	4725	4229	3723
50°	4374	3926	3320
55°	4046	3557	2974
60°	3707	3178	2664
65°	3262	2783	2359
70°	2687	2436	2004
75°	2137	1866	1956
80°	1435	1345	1256
85°	894	1073	1250

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4725 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	466.1	4.7
10°-20°	1279.1	13.0
20°-30°	1770.8	18.0
30°-40°	1888.2	19.2
40°-50°	1722.6	17.5
50°-60°	1349.5	13.7
60°-70°	879.5	8.9
70°-80°	389.7	4.0
80°-90°	83.7	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°	3515.9	35.8
0°-40°	5404.1	55.0
0°-60°	8476.1	86.2
0°-90°	9829.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9829.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5007	5007	5007	5007	5007	
5°	4920	4914	4914	4908	4908	467
15°	4602	4602	4555	4509	4492	1294
25°	3988	3965	3901	3762	3658	1831
35°	3236	3212	3056	2825	2755	2023
45°	2483	2431	2223	2037	1956	1913
55°	1725	1673	1516	1337	1268	1547
65°	1024	967	874	891	741	1010
75°	411	382	359	342	376	440
85°	58	64	70	75	81	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5006.8	5006.8	5006.8	5006.8	5006.8
2.5°	4972.0	4972.0	4972.0	4966.2	4966.2
5°	4919.9	4914.2	4914.2	4908.4	4908.4
7.5°	4879.4	4873.6	4867.8	4862.1	4850.5
10°	4821.5	4821.5	4815.8	4786.8	4781.0
12.5°	4728.9	4723.1	4700.0	4659.5	4647.9
15°	4601.6	4601.6	4555.3	4509.0	4491.6
17.5°	4462.7	4456.9	4399.0	4352.7	4329.5
20°	4312.2	4300.6	4242.7	4167.5	4127.0
22.5°	4144.3	4144.3	4074.9	3976.5	3936.0
25°	3988.0	3964.9	3901.2	3762.3	3658.1
27.5°	3808.6	3773.9	3704.4	3507.6	3386.1
30°	3611.8	3594.4	3496.1	3241.4	3148.8
32.5°	3426.6	3397.7	3293.5	3027.2	2952.0
35°	3235.6	3212.4	3056.2	2824.6	2755.2
37.5°	3044.6	3015.6	2818.8	2633.6	2546.8
40°	2853.6	2818.8	2604.7	2436.8	2344.2
42.5°	2674.1	2627.8	2419.5	2240.0	2135.8
45°	2483.1	2431.0	2222.7	2037.4	1956.4
47.5°	2292.1	2245.8	2054.8	1863.8	1771.2
50°	2089.5	2049.0	1875.4	1684.4	1586.0
52.5°	1921.7	1858.0	1690.1	1499.1	1418.1
55°	1724.9	1672.8	1516.5	1337.1	1267.6
57.5°	1545.4	1493.3	1348.6	1180.8	1122.9
60°	1377.6	1302.3	1180.8	1036.1	989.8
62.5°	1192.4	1134.5	1030.3	908.7	966.6
65°	1024.5	966.6	874.0	891.4	740.9
67.5°	839.3	810.3	729.3	648.3	625.1
70°	683.0	648.3	619.3	532.5	509.4
72.5°	544.1	509.4	468.8	422.5	405.2
75°	411.0	382.0	358.9	341.5	376.2
77.5°	283.6	272.0	254.7	237.3	231.5
80°	185.2	179.4	173.6	167.9	162.1
82.5°	110.0	110.0	110.0	110.0	110.0
85°	57.9	63.7	69.5	75.2	81.0
87.5°	34.7	34.7	40.5	46.3	52.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)