

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: P563212

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563212
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-LD4-3HI-50-UNV-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12083.0 lumens
Efficiency: N/A
Efficacy: 93.2 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

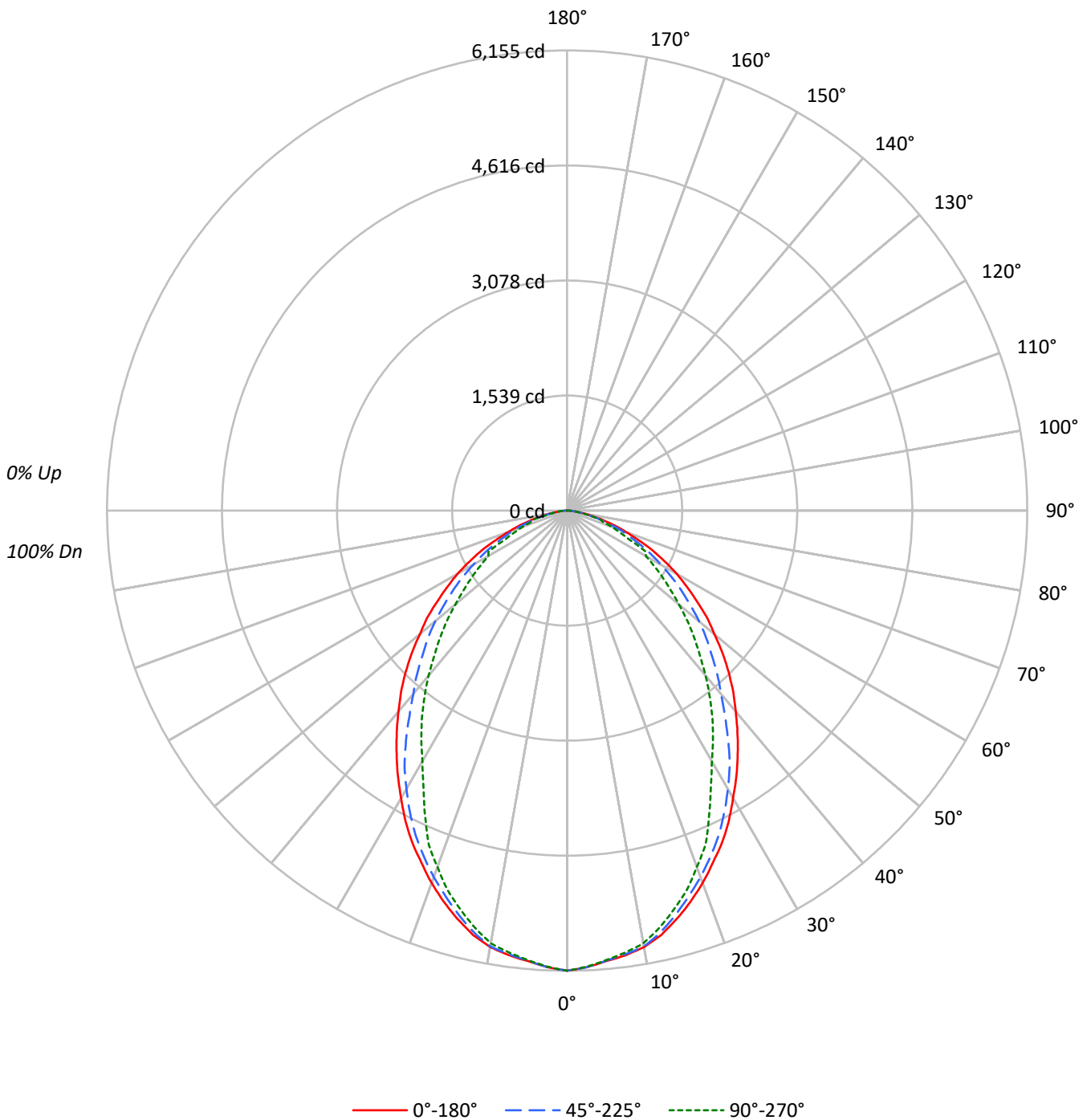
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8281	8281	8281
5°	8169	8159	8150
10°	8098	8088	8030
15°	7880	7800	7691
20°	7590	7468	7264
25°	7278	7120	6676
30°	6898	6677	6014
35°	6533	6171	5563
40°	6161	5624	5062
45°	5809	5199	4576
50°	5377	4826	4081
55°	4974	4373	3655
60°	4557	3906	3274
65°	4010	3421	2900
70°	3303	2995	2463
75°	2626	2294	2404
80°	1764	1654	1543
85°	1099	1318	1538

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5809 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	572.9	4.7
10°-20°	1572.4	13.0
20°-30°	2176.9	18.0
30°-40°	2321.2	19.2
40°-50°	2117.6	17.5
50°-60°	1659.0	13.7
60°-70°	1081.2	8.9
70°-80°	479.0	4.0
80°-90°	102.9	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°	4322.2	35.8
0°-40°	6643.4	55.0
0°-60°	10419.9	86.2
0°-90°	12083.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12083.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6155	6155	6155	6155	6155	
5°	6048	6041	6041	6034	6034	574
15°	5657	5657	5600	5543	5522	1590
25°	4903	4874	4796	4625	4497	2251
35°	3978	3949	3757	3472	3387	2487
45°	3053	2988	2732	2505	2405	2351
55°	2120	2056	1864	1644	1558	1902
65°	1259	1188	1074	1096	911	1241
75°	505	470	441	420	462	541
85°	71	78	85	92	100	99
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6154.9	6154.9	6154.9	6154.9	6154.9
2.5°	6112.2	6112.2	6112.2	6105.1	6105.1
5°	6048.2	6041.1	6041.1	6034.0	6034.0
7.5°	5998.4	5991.3	5984.1	5977.0	5962.8
10°	5927.2	5927.2	5920.1	5884.5	5877.4
12.5°	5813.4	5806.3	5777.8	5728.0	5713.8
15°	5656.8	5656.8	5599.9	5543.0	5521.6
17.5°	5486.1	5478.9	5407.8	5350.9	5322.4
20°	5301.1	5286.8	5215.7	5123.2	5073.4
22.5°	5094.7	5094.7	5009.3	4888.4	4838.5
25°	4902.6	4874.1	4795.9	4625.1	4497.0
27.5°	4682.0	4639.3	4553.9	4312.0	4162.6
30°	4440.1	4418.7	4297.8	3984.7	3870.8
32.5°	4212.4	4176.8	4048.7	3721.4	3628.9
35°	3977.6	3949.1	3757.0	3472.4	3387.0
37.5°	3742.8	3707.2	3465.3	3237.6	3130.8
40°	3507.9	3465.3	3202.0	2995.6	2881.8
42.5°	3287.4	3230.4	2974.3	2753.7	2625.6
45°	3052.6	2988.5	2732.4	2504.7	2405.0
47.5°	2817.7	2760.8	2526.0	2291.2	2177.3
50°	2568.7	2518.9	2305.4	2070.6	1949.7
52.5°	2362.4	2284.1	2077.7	1842.9	1743.3
55°	2120.4	2056.4	1864.3	1643.7	1558.3
57.5°	1899.8	1835.8	1657.9	1451.6	1380.4
60°	1693.5	1601.0	1451.6	1273.7	1216.8
62.5°	1465.8	1394.6	1266.6	1117.1	1188.3
65°	1259.4	1188.3	1074.4	1095.8	910.8
67.5°	1031.7	996.2	896.6	796.9	768.5
70°	839.6	796.9	761.4	654.6	626.2
72.5°	668.9	626.2	576.4	519.4	498.1
75°	505.2	469.6	441.2	419.8	462.5
77.5°	348.7	334.4	313.1	291.7	284.6
80°	227.7	220.6	213.5	206.3	199.2
82.5°	135.2	135.2	135.2	135.2	135.2
85°	71.2	78.3	85.4	92.5	99.6
87.5°	42.7	42.7	49.8	56.9	64.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)