

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: P563534

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563534
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-40-UNV-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9020.0 lumens
Efficiency: N/A
Efficacy: 90.3 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

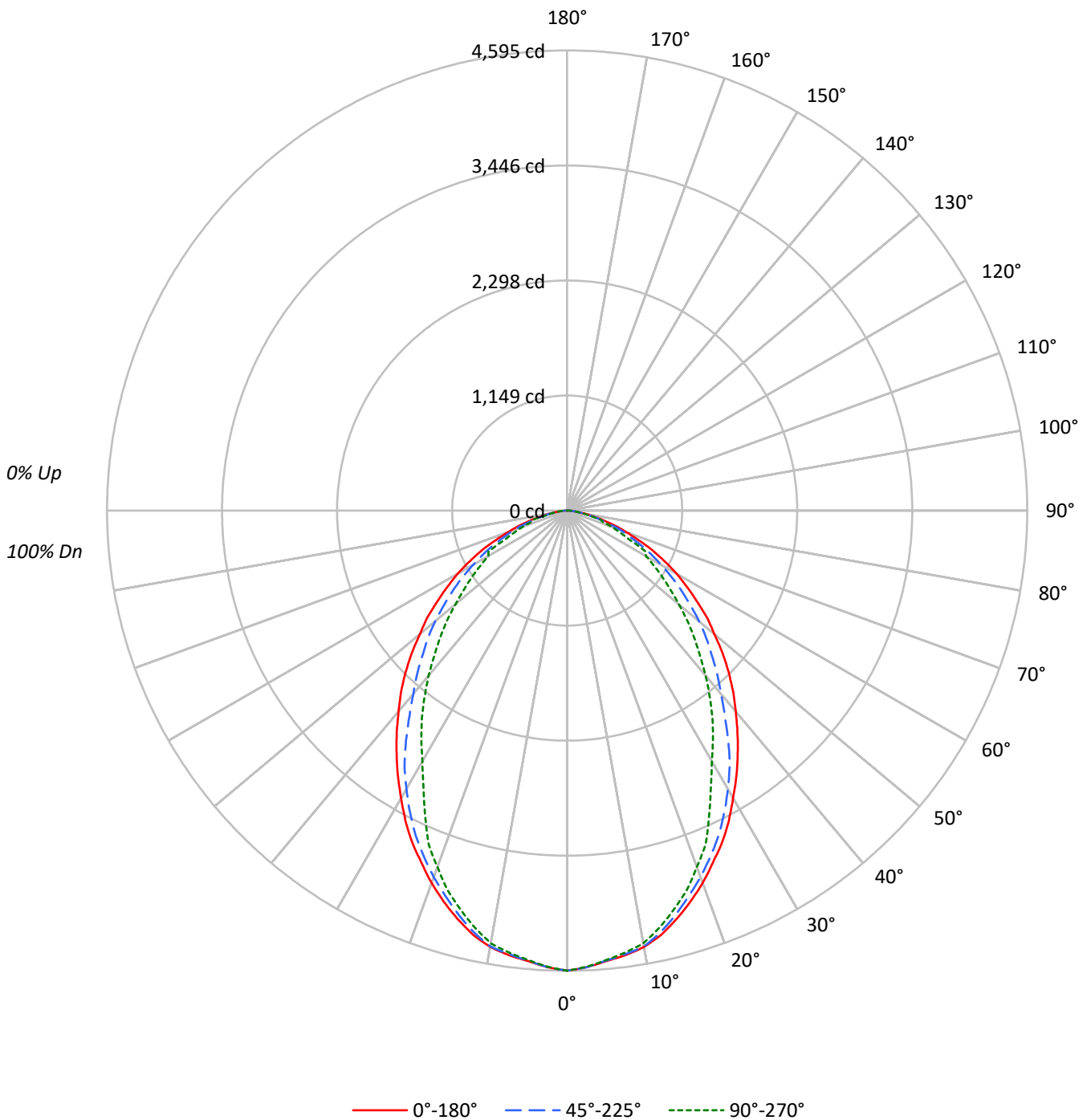
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	6182	6182	6182
5°	6098	6091	6084
10°	6045	6038	5994
15°	5882	5823	5742
20°	5666	5575	5423
25°	5433	5315	4984
30°	5150	4985	4489
35°	4877	4607	4153
40°	4600	4198	3779
45°	4336	3881	3416
50°	4014	3602	3046
55°	3713	3265	2729
60°	3402	2916	2444
65°	2993	2554	2165
70°	2466	2236	1839
75°	1960	1712	1795
80°	1317	1235	1152
85°	820	983	1149

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4336 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	427.7	4.7
10°-20°	1173.8	13.0
20°-30°	1625.0	18.0
30°-40°	1732.8	19.2
40°-50°	1580.8	17.5
50°-60°	1238.4	13.7
60°-70°	807.1	8.9
70°-80°	357.6	4.0
80°-90°	76.8	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°	3226.5	35.8
0°-40°	4959.3	55.0
0°-60°	7778.5	86.2
0°-90°	9020.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9020.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4595	4595	4595	4595	4595	
5°	4515	4510	4510	4504	4504	429
15°	4223	4223	4180	4138	4122	1187
25°	3660	3639	3580	3453	3357	1680
35°	2969	2948	2805	2592	2528	1856
45°	2279	2231	2040	1870	1795	1755
55°	1583	1535	1392	1227	1163	1420
65°	940	887	802	818	680	927
75°	377	351	329	313	345	404
85°	53	58	64	69	74	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4594.7	4594.7	4594.7	4594.7	4594.7
2.5°	4562.8	4562.8	4562.8	4557.5	4557.5
5°	4515.0	4509.7	4509.7	4504.4	4504.4
7.5°	4477.8	4472.5	4467.2	4461.9	4451.3
10°	4424.7	4424.7	4419.4	4392.8	4387.5
12.5°	4339.7	4334.4	4313.1	4276.0	4265.3
15°	4222.8	4222.8	4180.4	4137.9	4121.9
17.5°	4095.4	4090.1	4036.9	3994.4	3973.2
20°	3957.3	3946.6	3893.5	3824.5	3787.3
22.5°	3803.2	3803.2	3739.5	3649.2	3612.0
25°	3659.8	3638.6	3580.1	3452.6	3357.0
27.5°	3495.1	3463.3	3399.5	3218.9	3107.4
30°	3314.5	3298.6	3208.3	2974.6	2889.6
32.5°	3144.6	3118.0	3022.4	2778.0	2709.0
35°	2969.3	2948.0	2804.6	2592.1	2528.4
37.5°	2794.0	2767.4	2586.8	2416.8	2337.2
40°	2618.7	2586.8	2390.3	2236.2	2151.3
42.5°	2454.0	2411.5	2220.3	2055.6	1960.0
45°	2278.7	2230.9	2039.7	1869.7	1795.4
47.5°	2103.5	2061.0	1885.7	1710.4	1625.4
50°	1917.5	1880.4	1721.0	1545.7	1455.4
52.5°	1763.5	1705.1	1551.0	1375.7	1301.4
55°	1582.9	1535.1	1391.7	1227.0	1163.3
57.5°	1418.2	1370.4	1237.6	1083.6	1030.5
60°	1264.2	1195.1	1083.6	950.8	908.3
62.5°	1094.2	1041.1	945.5	833.9	887.1
65°	940.2	887.1	802.1	818.0	679.9
67.5°	770.2	743.6	669.3	594.9	573.7
70°	626.8	594.9	568.4	488.7	467.4
72.5°	499.3	467.4	430.3	387.8	371.8
75°	377.1	350.6	329.3	313.4	345.3
77.5°	260.3	249.7	233.7	217.8	212.5
80°	170.0	164.7	159.4	154.0	148.7
82.5°	100.9	100.9	100.9	100.9	100.9
85°	53.1	58.4	63.7	69.1	74.4
87.5°	31.9	31.9	37.2	42.5	47.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)