

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: P561357

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561357
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-12-4-LD4-2HI-35-UNV-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7673.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

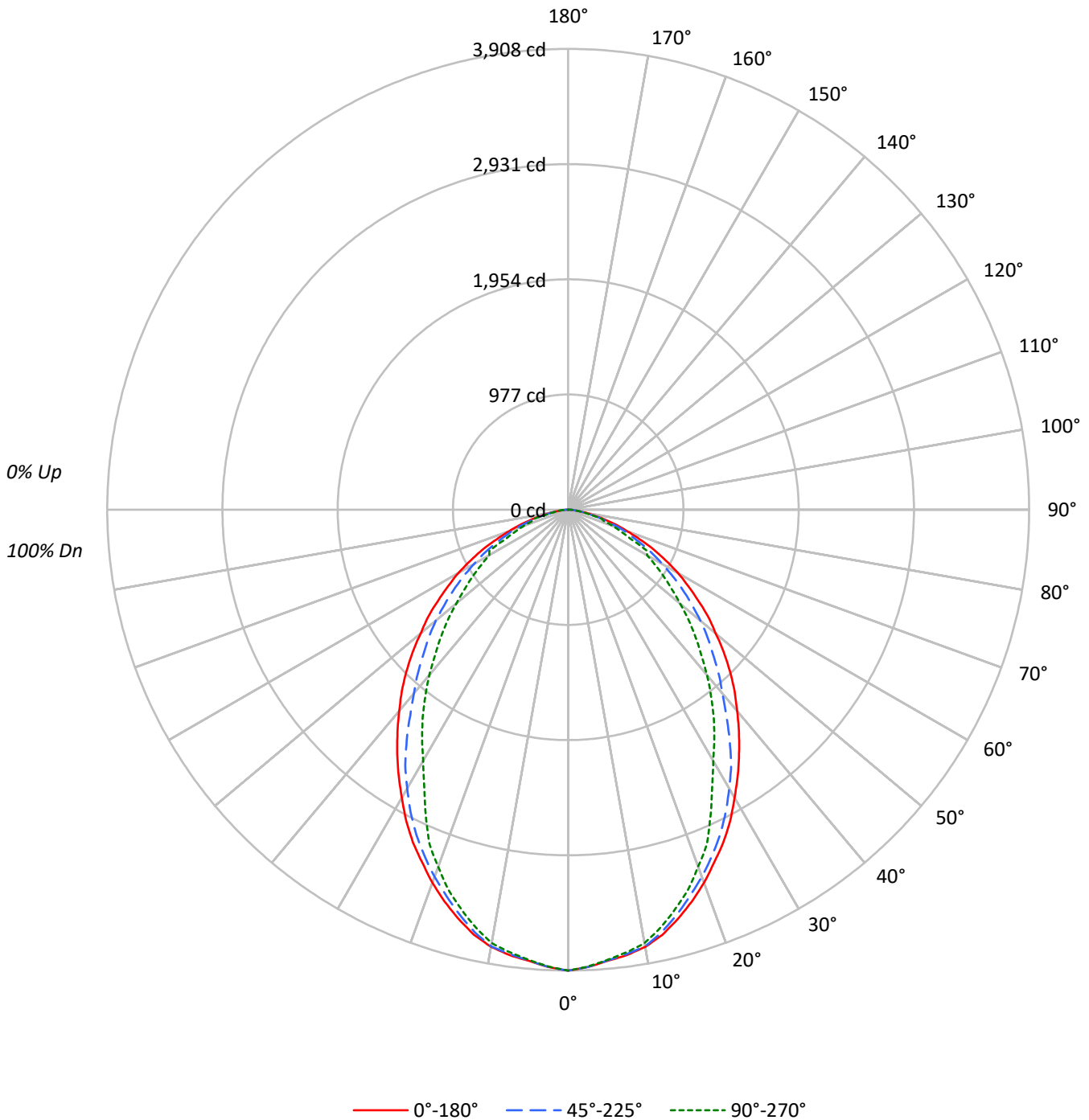
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	10518	10518	10518
5°	10375	10363	10350
10°	10285	10273	10198
15°	10008	9907	9769
20°	9640	9485	9226
25°	9244	9043	8479
30°	8761	8480	7638
35°	8298	7838	7066
40°	7825	7143	6428
45°	7377	6603	5812
50°	6829	6129	5183
55°	6317	5554	4643
60°	5788	4961	4159
65°	5093	4344	3683
70°	4195	3804	3128
75°	3335	2912	3054
80°	2241	2101	1960
85°	1396	1673	1954

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7377 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	363.8	4.7
10°-20°	998.5	13.0
20°-30°	1382.4	18.0
30°-40°	1474.0	19.2
40°-50°	1344.7	17.5
50°-60°	1053.5	13.7
60°-70°	686.6	8.9
70°-80°	304.2	4.0
80°-90°	65.3	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°	2744.7	35.8
0°-40°	4218.7	55.0
0°-60°	6616.9	86.2
0°-90°	7673.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7673.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3908	3908	3908	3908	3908	
5°	3841	3836	3836	3832	3832	365
15°	3592	3592	3556	3520	3506	1010
25°	3113	3095	3046	2937	2856	1429
35°	2526	2508	2386	2205	2151	1579
45°	1938	1898	1735	1590	1527	1493
55°	1346	1306	1184	1044	990	1208
65°	800	755	682	696	578	788
75°	321	298	280	267	294	344
85°	45	50	54	59	63	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3908.5	3908.5	3908.5	3908.5	3908.5
2.5°	3881.4	3881.4	3881.4	3876.9	3876.9
5°	3840.7	3836.2	3836.2	3831.7	3831.7
7.5°	3809.1	3804.6	3800.1	3795.6	3786.5
10°	3763.9	3763.9	3759.4	3736.8	3732.3
12.5°	3691.6	3687.1	3669.0	3637.4	3628.4
15°	3592.2	3592.2	3556.1	3519.9	3506.4
17.5°	3483.8	3479.3	3434.1	3397.9	3379.9
20°	3366.3	3357.3	3312.1	3253.3	3221.7
22.5°	3235.3	3235.3	3181.0	3104.2	3072.6
25°	3113.3	3095.2	3045.5	2937.0	2855.7
27.5°	2973.2	2946.1	2891.9	2738.2	2643.3
30°	2819.6	2806.0	2729.2	2530.4	2458.1
32.5°	2675.0	2652.4	2571.0	2363.2	2304.4
35°	2525.9	2507.8	2385.8	2205.0	2150.8
37.5°	2376.7	2354.2	2200.5	2055.9	1988.2
40°	2227.6	2200.5	2033.3	1902.3	1830.0
42.5°	2087.6	2051.4	1888.7	1748.7	1667.3
45°	1938.4	1897.8	1735.1	1590.5	1527.3
47.5°	1789.3	1753.2	1604.1	1455.0	1382.7
50°	1631.2	1599.6	1464.0	1314.9	1238.1
52.5°	1500.2	1450.4	1319.4	1170.3	1107.0
55°	1346.5	1305.9	1183.9	1043.8	989.6
57.5°	1206.4	1165.8	1052.8	921.8	876.6
60°	1075.4	1016.7	921.8	808.8	772.7
62.5°	930.8	885.6	804.3	709.4	754.6
65°	799.8	754.6	682.3	695.9	578.4
67.5°	655.2	632.6	569.3	506.1	488.0
70°	533.2	506.1	483.5	415.7	397.6
72.5°	424.7	397.6	366.0	329.9	316.3
75°	320.8	298.2	280.1	266.6	293.7
77.5°	221.4	212.4	198.8	185.3	180.7
80°	144.6	140.1	135.6	131.0	126.5
82.5°	85.9	85.9	85.9	85.9	85.9
85°	45.2	49.7	54.2	58.7	63.3
87.5°	27.1	27.1	31.6	36.1	40.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)