

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: P560781

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560781
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-LD4-1HI-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: 3836.0 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

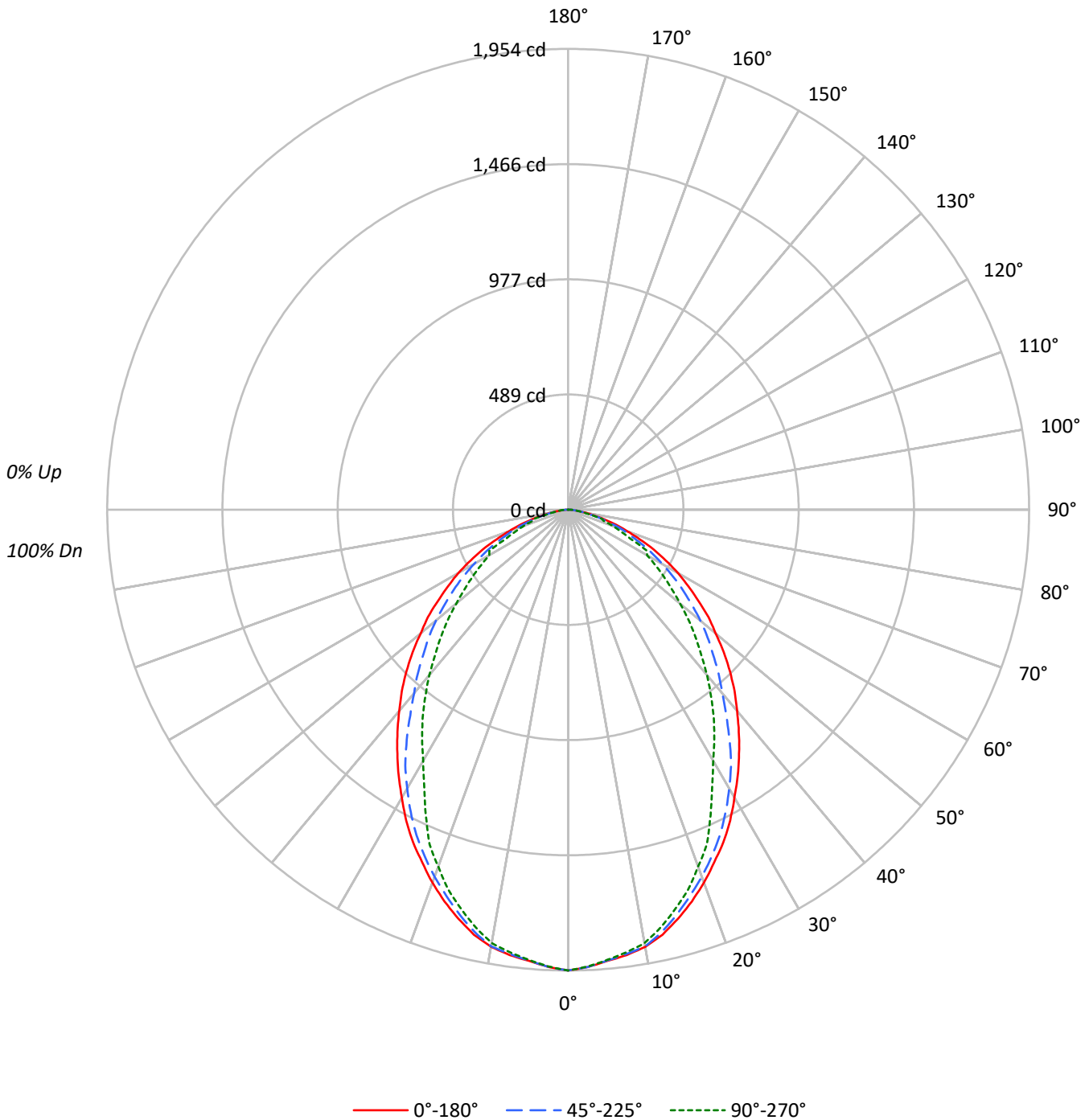
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									70									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°	5258	5258	5258
5°	5187	5181	5175
10°	5142	5136	5099
15°	5003	4953	4884
20°	4819	4742	4612
25°	4621	4521	4239
30°	4380	4240	3819
35°	4148	3918	3532
40°	3912	3571	3214
45°	3688	3301	2906
50°	3414	3064	2591
55°	3158	2776	2321
60°	2893	2480	2079
65°	2546	2172	1841
70°	2098	1902	1564
75°	1668	1457	1526
80°	1120	1051	981
85°	698	837	976

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3688 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.9	4.7
10°-20°	499.2	13.0
20°-30°	691.1	18.0
30°-40°	736.9	19.2
40°-50°	672.3	17.5
50°-60°	526.7	13.7
60°-70°	343.3	8.9
70°-80°	152.1	4.0
80°-90°	32.6	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°	1372.2	35.8
0°-40°	2109.1	55.0
0°-60°	3308.0	86.2
0°-90°	3836.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3836.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1954	1954	1954	1954	1954	
5°	1920	1918	1918	1916	1916	182
15°	1796	1796	1778	1760	1753	505
25°	1556	1547	1522	1468	1428	715
35°	1263	1254	1193	1102	1075	789
45°	969	949	867	795	764	746
55°	673	653	592	522	495	604
65°	400	377	341	348	289	394
75°	160	149	140	133	147	172
85°	23	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1954.0	1954.0	1954.0	1954.0	1954.0
2.5°	1940.5	1940.5	1940.5	1938.2	1938.2
5°	1920.1	1917.9	1917.9	1915.6	1915.6
7.5°	1904.3	1902.1	1899.8	1897.5	1893.0
10°	1881.7	1881.7	1879.5	1868.2	1865.9
12.5°	1845.6	1843.3	1834.3	1818.5	1814.0
15°	1795.9	1795.9	1777.8	1759.7	1753.0
17.5°	1741.7	1739.4	1716.8	1698.7	1689.7
20°	1682.9	1678.4	1655.8	1626.5	1610.6
22.5°	1617.4	1617.4	1590.3	1551.9	1536.1
25°	1556.4	1547.4	1522.5	1468.3	1427.7
27.5°	1486.4	1472.8	1445.7	1368.9	1321.5
30°	1409.6	1402.8	1364.4	1265.0	1228.9
32.5°	1337.3	1326.0	1285.4	1181.4	1152.1
35°	1262.8	1253.7	1192.7	1102.4	1075.3
37.5°	1188.2	1176.9	1100.1	1027.8	993.9
40°	1113.7	1100.1	1016.5	951.0	914.9
42.5°	1043.6	1025.6	944.2	874.2	833.6
45°	969.1	948.8	867.4	795.2	763.5
47.5°	894.6	876.5	801.9	727.4	691.2
50°	815.5	799.7	731.9	657.4	619.0
52.5°	750.0	725.1	659.6	585.1	553.4
55°	673.2	652.8	591.8	521.8	494.7
57.5°	603.1	582.8	526.3	460.8	438.2
60°	537.6	508.3	460.8	404.4	386.3
62.5°	465.3	442.8	402.1	354.7	377.2
65°	399.8	377.2	341.1	347.9	289.1
67.5°	327.6	316.3	284.6	253.0	244.0
70°	266.6	253.0	241.7	207.8	198.8
72.5°	212.3	198.8	183.0	164.9	158.1
75°	160.4	149.1	140.1	133.3	146.8
77.5°	110.7	106.2	99.4	92.6	90.4
80°	72.3	70.0	67.8	65.5	63.3
82.5°	42.9	42.9	42.9	42.9	42.9
85°	22.6	24.8	27.1	29.4	31.6
87.5°	13.6	13.6	15.8	18.1	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)