

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: P562048

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562048
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-LD4-1HI-40-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3859.0 lumens
Efficiency: N/A
Efficacy: 89.3 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

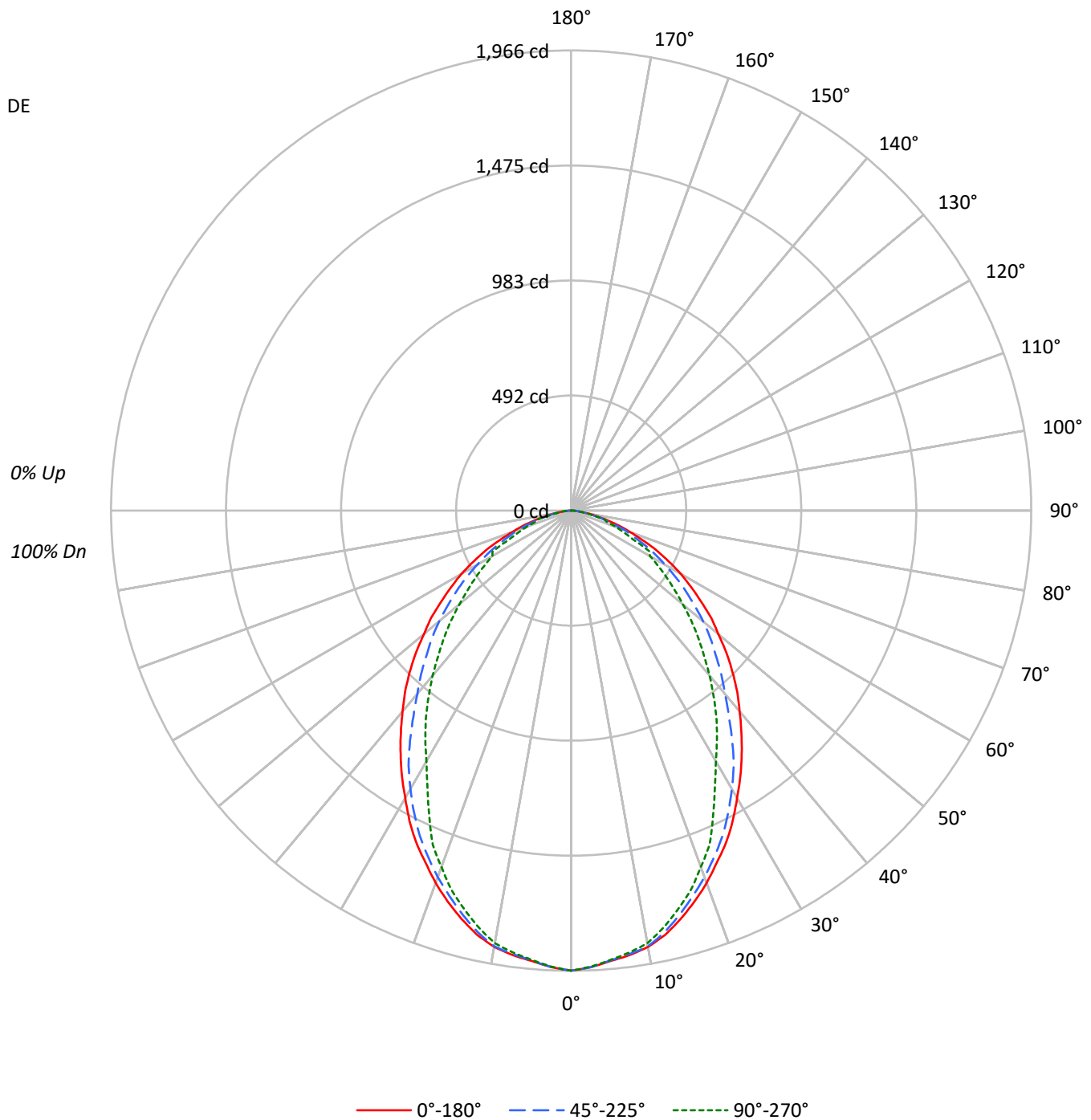
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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°	2645	2645	2645
5°	2609	2606	2603
10°	2586	2583	2565
15°	2517	2491	2456
20°	2424	2385	2320
25°	2325	2274	2132
30°	2203	2133	1921
35°	2087	1971	1777
40°	1968	1796	1617
45°	1855	1660	1462
50°	1717	1541	1303
55°	1589	1397	1167
60°	1456	1248	1046
65°	1280	1092	926
70°	1055	957	787
75°	839	732	768
80°	563	528	493
85°	350	421	491

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1855 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.0	4.7
10°-20°	502.2	13.0
20°-30°	695.2	18.0
30°-40°	741.3	19.2
40°-50°	676.3	17.5
50°-60°	529.8	13.7
60°-70°	345.3	8.9
70°-80°	153.0	4.0
80°-90°	32.8	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°	1380.4	35.8
0°-40°	2121.7	55.0
0°-60°	3327.8	86.2
0°-90°	3859.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3859.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1966	1966	1966	1966	1966	
5°	1932	1929	1929	1927	1927	183
15°	1807	1807	1788	1770	1764	508
25°	1566	1557	1532	1477	1436	719
35°	1270	1261	1200	1109	1082	794
45°	975	954	873	800	768	751
55°	677	657	595	525	498	607
65°	402	380	343	350	291	396
75°	161	150	141	134	148	173
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1965.7	1965.7	1965.7	1965.7	1965.7
2.5°	1952.1	1952.1	1952.1	1949.8	1949.8
5°	1931.6	1929.4	1929.4	1927.1	1927.1
7.5°	1915.7	1913.5	1911.2	1908.9	1904.4
10°	1893.0	1893.0	1890.7	1879.4	1877.1
12.5°	1856.6	1854.4	1845.3	1829.4	1824.8
15°	1806.6	1806.6	1788.5	1770.3	1763.5
17.5°	1752.1	1749.8	1727.1	1708.9	1699.8
20°	1693.0	1688.5	1665.8	1636.2	1620.3
22.5°	1627.1	1627.1	1599.8	1561.2	1545.3
25°	1565.8	1556.7	1531.7	1477.1	1436.2
27.5°	1495.3	1481.7	1454.4	1377.1	1329.4
30°	1418.0	1411.2	1372.6	1272.6	1236.2
32.5°	1345.3	1334.0	1293.1	1188.5	1159.0
35°	1270.3	1261.2	1199.9	1109.0	1081.7
37.5°	1195.3	1184.0	1106.7	1034.0	999.9
40°	1120.3	1106.7	1022.6	956.7	920.4
42.5°	1049.9	1031.7	949.9	879.5	838.6
45°	974.9	954.5	872.6	799.9	768.1
47.5°	899.9	881.7	806.7	731.7	695.4
50°	820.4	804.5	736.3	661.3	622.7
52.5°	754.5	729.5	663.6	588.6	556.8
55°	677.2	656.8	595.4	525.0	497.7
57.5°	606.8	586.3	529.5	463.6	440.9
60°	540.9	511.3	463.6	406.8	388.6
62.5°	468.1	445.4	404.5	356.8	379.5
65°	402.2	379.5	343.1	350.0	290.9
67.5°	329.5	318.2	286.3	254.5	245.4
70°	268.2	254.5	243.2	209.1	200.0
72.5°	213.6	200.0	184.1	165.9	159.1
75°	161.3	150.0	140.9	134.1	147.7
77.5°	111.4	106.8	100.0	93.2	90.9
80°	72.7	70.4	68.2	65.9	63.6
82.5°	43.2	43.2	43.2	43.2	43.2
85°	22.7	25.0	27.3	29.5	31.8
87.5°	13.6	13.6	15.9	18.2	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)