

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: METALUX

Report Number: P1588668

Luminaire Tested: 24CZSP-A-49HE-L945-S

Issue Date: 9/3/2026

Test Information

Test Method: LM-79-2019
Report Number: P1588668
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2608-884-6)
Test Lab: INNOVATION CENTER
Issue Date: 9/3/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 24CZSP-A-49HE-L945-S
Description: 2x4 CZSP LED Luminaire, 4500K CCT and 4500 lumens, 90CRI, Smooth Lens, Air Vented Housing
Light Source: -
Ballast/Driver: -

Summary

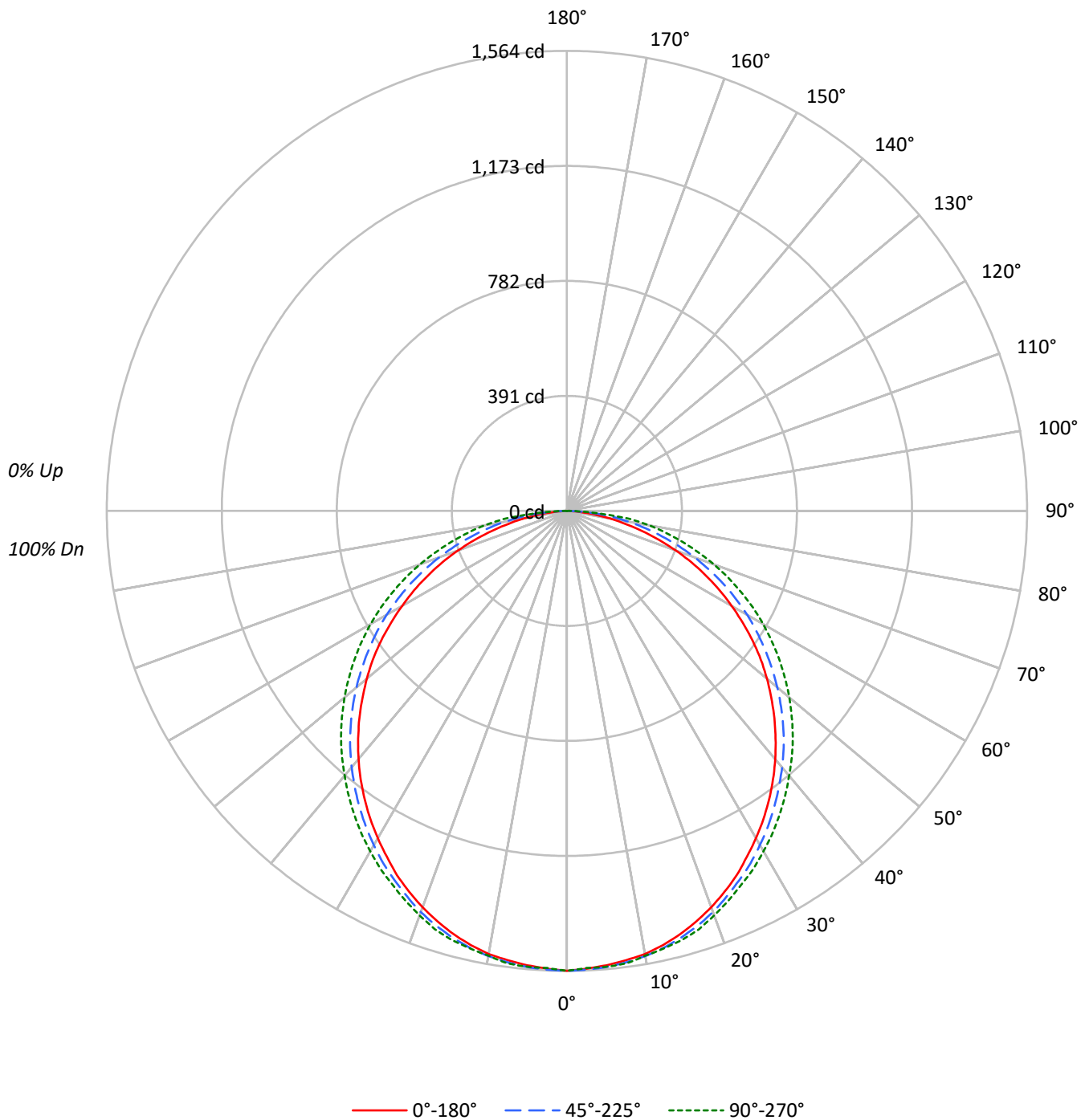
Lumens per Lamp: N/A
Luminaire Lumens: 4565.1 lumens
Efficiency: N/A
Efficacy: 137.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.27 / 1.37
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
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

TEST NUMBER: P1588668

CATALOG NUMBER: 24CZSP-A-49HE-L945-S

Luminous Intensity Polar Plot



TEST NUMBER: P1588668

CATALOG NUMBER: 24CZSP-A-49HE-L945-S

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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62		71	65	61		69	64	60	57
4	82	69	60	54	79	68	60	53	66	58	52		63	57	52		61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45		57	50	45		55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40		51	44	39		50	44	39	37
7	64	50	42	35	62	50	41	35	48	40	35		47	40	35		45	39	34	32
8	60	46	37	32	58	45	37	31	44	37	31		43	36	31		42	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28		39	33	28		38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25		37	30	25		36	30	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2395	2395	2395
5°	2384	2393	2392
10°	2379	2390	2388
15°	2362	2381	2395
20°	2338	2366	2385
25°	2309	2341	2370
30°	2273	2321	2363
35°	2240	2298	2356
40°	2203	2275	2349
45°	2161	2252	2352
50°	2115	2225	2351
55°	2060	2193	2354
60°	1982	2169	2360
65°	1891	2127	2367
70°	1763	2068	2377
75°	1571	1986	2401
80°	1298	1891	2518
85°	845	1708	2200

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 82.5°

Luminance: 2598 cd/sqm

TEST NUMBER: P1588668

CATALOG NUMBER: 24CZSP-A-49HE-L945-S

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.9	3.2
10°-20°	423.4	9.3
20°-30°	638.6	14.0
30°-40°	769.2	16.8
40°-50°	803.3	17.6
50°-60°	737.8	16.2
60°-70°	581.1	12.7
70°-80°	356.5	7.8
80°-90°	107.3	2.4
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°	1209.9	26.5
0°-40°	1979.1	43.4
0°-60°	3520.2	77.1
0°-90°	4565.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4565.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1564	1564	1564	1564	1564	
5°	1551	1553	1557	1562	1556	147
15°	1490	1492	1502	1510	1510	420
25°	1366	1369	1385	1402	1402	629
35°	1198	1204	1229	1254	1260	749
45°	998	1009	1040	1076	1086	769
55°	771	785	821	868	882	689
65°	522	540	587	636	653	516
75°	265	286	336	389	406	281
85°	48	66	97	123	125	63
90°	0	0	0	0	0	



TEST NUMBER: P1588668

CATALOG NUMBER: 24CZSP-A-49HE-L945-S

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1563.6	1563.6	1563.6	1563.6	1563.6
2.5°	1557.6	1560.6	1561.6	1562.6	1555.6
5°	1550.6	1552.6	1556.6	1561.6	1555.6
7.5°	1540.6	1542.6	1547.6	1554.6	1551.6
10°	1529.6	1530.6	1536.6	1541.6	1535.6
12.5°	1511.5	1514.6	1521.6	1525.6	1523.6
15°	1489.5	1492.5	1501.5	1510.5	1510.5
17.5°	1463.5	1467.5	1478.5	1490.5	1491.5
20°	1434.4	1437.4	1451.4	1463.5	1463.5
22.5°	1401.4	1405.4	1419.4	1432.4	1434.4
25°	1366.3	1369.3	1385.3	1402.4	1402.4
27.5°	1325.2	1331.2	1351.3	1368.3	1372.3
30°	1285.2	1290.2	1312.2	1333.2	1336.3
32.5°	1243.1	1249.1	1272.1	1295.2	1300.2
35°	1198.0	1204.0	1229.1	1254.1	1260.1
37.5°	1150.9	1158.0	1184.0	1213.0	1219.1
40°	1101.9	1109.9	1137.9	1169.0	1175.0
42.5°	1049.8	1060.8	1090.8	1122.9	1131.9
45°	997.7	1008.7	1039.8	1075.8	1085.8
47.5°	942.6	955.6	987.7	1025.7	1036.7
50°	887.5	900.5	933.6	974.6	986.7
52.5°	831.4	844.4	878.5	921.6	934.6
55°	771.3	785.3	821.4	867.5	881.5
57.5°	709.2	727.2	765.3	812.4	826.4
60°	647.1	665.1	708.2	754.3	770.3
62.5°	586.0	603.0	647.1	696.2	713.2
65°	521.9	539.9	587.0	636.1	653.1
67.5°	458.8	476.8	523.9	575.0	593.0
70°	393.7	413.7	461.8	512.9	530.9
72.5°	328.6	349.6	398.7	450.8	467.8
75°	265.4	286.5	335.6	388.7	405.7
77.5°	203.3	226.4	274.5	328.6	344.6
80°	147.2	169.3	214.4	267.5	285.5
82.5°	94.2	113.2	158.3	208.4	221.4
85°	48.1	66.1	97.2	123.2	125.2
87.5°	15.0	21.0	32.1	48.1	49.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1588668

CATALOG NUMBER: 24CZSP-A-49HE-L945-S

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	14.51	16.17	14.88	16.49	16.80	15.34	17.00	15.71	17.32	17.63
	3H	16.27	17.78	16.64	18.10	18.46	17.46	18.97	17.84	19.29	19.65
	4H	16.89	18.31	17.28	18.66	19.03	18.35	19.77	18.75	20.12	20.49
	6H	17.30	18.62	17.71	18.98	19.37	19.13	20.45	19.54	20.81	21.20
	8H	17.40	18.67	17.83	19.06	19.45	19.45	20.71	19.87	21.10	21.50
	12H	17.46	18.67	17.89	19.05	19.48	19.66	20.87	20.09	21.25	21.68
4H	2H	15.28	16.71	15.68	17.05	17.43	15.93	17.35	16.33	17.70	18.07
	3H	17.26	18.46	17.67	18.86	19.26	18.29	19.48	18.69	19.88	20.28
	4H	18.00	19.08	18.43	19.50	19.93	19.34	20.42	19.77	20.84	21.27
	6H	18.53	19.48	18.98	19.92	20.37	20.29	21.24	20.74	21.68	22.14
	8H	18.67	19.57	19.13	20.01	20.47	20.69	21.58	21.15	22.02	22.49
	12H	18.76	19.56	19.24	20.03	20.50	20.96	21.77	21.44	22.24	22.71
8H	4H	18.46	19.35	18.92	19.79	20.25	19.63	20.52	20.09	20.96	21.42
	6H	19.12	19.86	19.61	20.35	20.82	20.74	21.48	21.23	21.97	22.44
	8H	19.33	20.00	19.84	20.50	20.99	21.25	21.92	21.76	22.42	22.91
	12H	19.47	20.06	19.97	20.55	21.11	21.64	22.23	22.14	22.72	23.28
12H	4H	18.55	19.35	19.03	19.82	20.29	19.65	20.45	20.13	20.93	21.40
	6H	19.25	19.92	19.76	20.42	20.91	20.79	21.46	21.29	21.96	22.45
	8H	19.53	20.12	20.03	20.61	21.17	21.36	21.96	21.87	22.45	23.00