

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



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055963

Luminaire Tested: S124R3DR-S1020D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055963
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-S1020D850-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

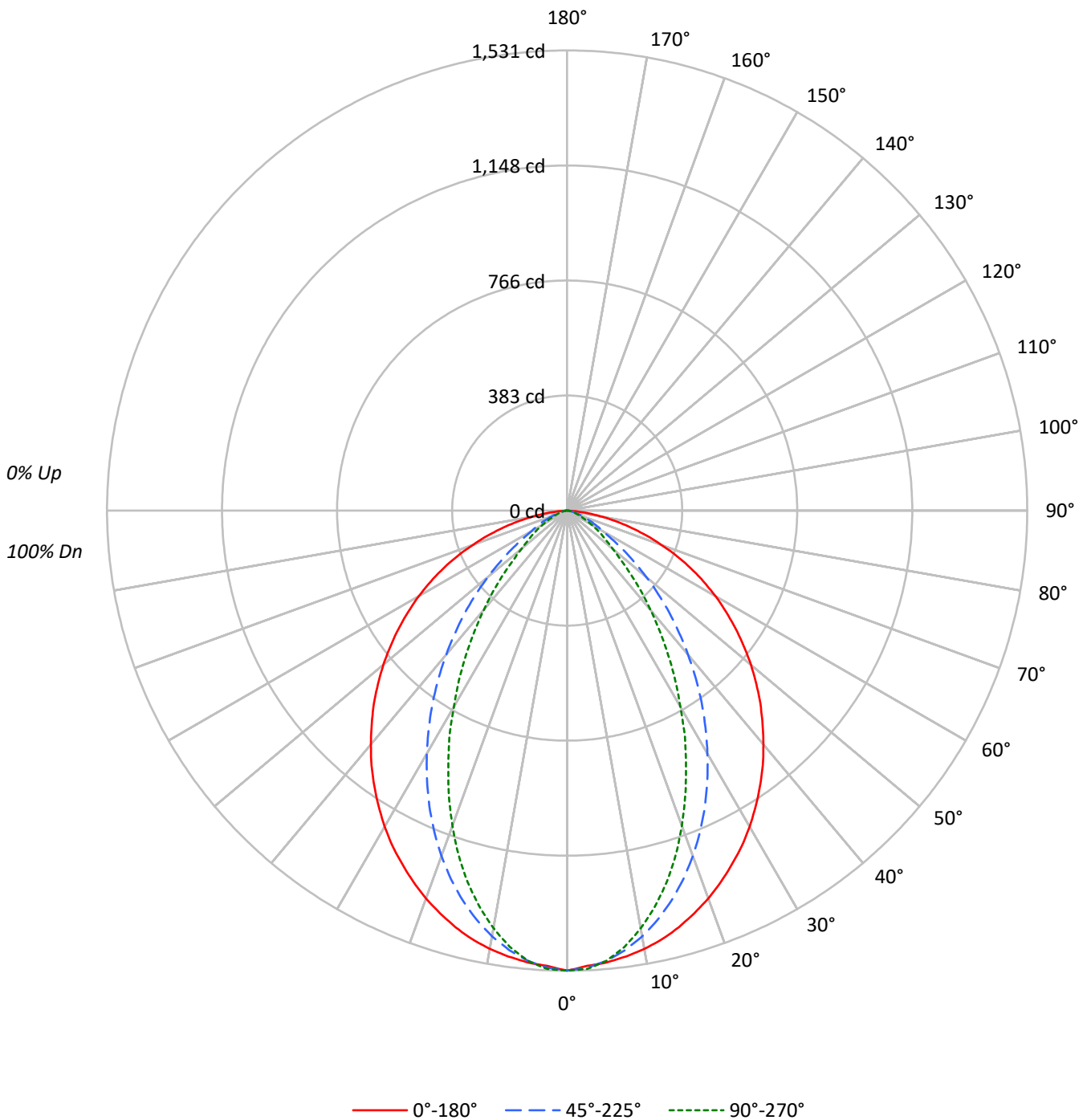
Lumens per Lamp: N/A
Luminaire Lumens: 2475.0 lumens
Efficiency: N/A
Efficacy: 71.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
Input Voltage (V): 120
Input Current (A_{in}): 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	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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89																												
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78																												
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68																												
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60																												
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54																												
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48																												
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44																												
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40																												
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37																												
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13533	13533	13533
5°	13394	13344	13344
10°	13293	12910	12667
15°	13136	12288	11714
20°	12926	11505	10499
25°	12665	10580	9120
30°	12396	9530	7682
35°	12074	8413	6322
40°	11727	7220	4984
45°	11368	6005	3725
50°	10978	4725	2725
55°	10545	3493	2175
60°	10081	2419	1664
65°	9481	1879	1222
70°	8585	1326	959
75°	7498	926	731
80°	6023	728	652
85°	3327	578	578

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11368 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.0	5.7
10°-20°	379.3	15.3
20°-30°	506.0	20.4
30°-40°	509.4	20.6
40°-50°	417.8	16.9
50°-60°	285.6	11.5
60°-70°	159.6	6.4
70°-80°	63.3	2.6
80°-90°	12.0	0.5
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°	1027.3	41.5
0°-40°	1536.7	62.1
0°-60°	2240.1	90.5
0°-90°	2475.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2475.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1531	1531	1531	1531	1531	
5°	1509	1526	1504	1496	1504	143
15°	1435	1419	1342	1295	1280	404
25°	1298	1234	1084	975	935	598
35°	1119	1000	780	631	586	700
45°	909	742	480	338	298	701
55°	684	480	227	151	141	612
65°	453	228	90	64	58	448
75°	220	60	27	23	21	235
85°	33	6	6	6	6	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1530.6	1530.6	1530.6	1530.6	1530.6
2.5°	1516.3	1534.9	1522.0	1523.5	1526.3
5°	1509.2	1526.3	1503.5	1496.4	1503.5
7.5°	1496.4	1509.2	1475.0	1460.8	1463.6
10°	1480.7	1485.0	1438.0	1413.7	1410.9
12.5°	1460.8	1455.1	1393.8	1358.2	1349.6
15°	1435.1	1419.4	1342.5	1295.4	1279.8
17.5°	1405.2	1378.1	1285.5	1224.2	1201.4
20°	1373.8	1333.9	1222.8	1144.4	1115.9
22.5°	1336.8	1286.9	1155.8	1060.3	1027.5
25°	1298.3	1234.2	1084.5	974.8	934.9
27.5°	1258.4	1180.0	1010.4	887.9	848.0
30°	1214.2	1121.6	933.5	800.9	752.5
32.5°	1167.2	1061.7	856.5	715.4	669.8
35°	1118.7	1000.4	779.5	631.3	585.7
37.5°	1068.9	937.7	702.6	551.5	505.9
40°	1016.1	873.6	625.6	476.0	431.8
42.5°	962.0	808.1	551.5	404.7	363.4
45°	909.2	742.5	480.3	337.8	297.9
47.5°	853.7	676.9	410.4	275.1	240.8
50°	798.1	611.4	343.5	220.9	198.1
52.5°	741.1	545.8	282.2	181.0	165.3
55°	684.1	480.3	226.6	151.1	141.1
57.5°	627.1	414.7	175.3	128.3	116.9
60°	570.1	350.6	136.8	104.0	94.1
62.5°	511.6	286.5	112.6	82.7	74.1
65°	453.2	228.0	89.8	64.1	58.4
67.5°	394.8	173.9	68.4	49.9	45.6
70°	332.1	124.0	51.3	38.5	37.1
72.5°	277.9	84.1	37.1	29.9	28.5
75°	219.5	59.9	27.1	22.8	21.4
77.5°	169.6	38.5	20.0	18.5	17.1
80°	118.3	21.4	14.3	12.8	12.8
82.5°	72.7	11.4	10.0	8.6	8.6
85°	32.8	5.7	5.7	5.7	5.7
87.5°	5.7	2.9	2.9	2.9	2.9
90°	0.0	0.0	0.0	0.0	0.0

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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	19.77	21.18	20.14	21.49	21.81	10.87	12.27	11.23	12.59	12.90
	3H	21.36	22.61	21.74	22.94	23.31	11.46	12.71	11.84	13.04	13.40
	4H	21.96	23.12	22.36	23.47	23.86	11.62	12.78	12.02	13.13	13.52
	6H	22.39	23.46	22.80	23.83	24.23	11.72	12.80	12.14	13.17	13.56
	8H	22.50	23.52	22.93	23.91	24.32	11.74	12.76	12.17	13.15	13.56
	12H	22.54	23.52	22.98	23.90	24.33	11.75	12.73	12.18	13.11	13.54
4H	2H	19.63	20.80	20.03	21.15	21.53	11.45	12.62	11.85	12.97	13.35
	3H	21.28	22.24	21.69	22.64	23.04	12.16	13.12	12.57	13.52	13.93
	4H	21.88	22.74	22.32	23.16	23.60	12.37	13.22	12.80	13.64	14.08
	6H	22.38	23.12	22.84	23.56	24.03	12.53	13.27	12.99	13.72	14.18
	8H	22.52	23.21	22.98	23.66	24.13	12.57	13.26	13.03	13.70	14.17
	12H	22.59	23.20	23.08	23.69	24.16	12.59	13.20	13.08	13.69	14.16
8H	4H	21.78	22.47	22.24	22.91	23.38	12.64	13.33	13.10	13.78	14.25
	6H	22.26	22.82	22.76	23.32	23.80	12.84	13.41	13.34	13.90	14.38
	8H	22.40	22.91	22.92	23.42	23.91	12.90	13.41	13.42	13.92	14.41
	12H	22.49	22.94	23.01	23.43	24.00	12.96	13.41	13.47	13.90	14.47
12H	4H	21.74	22.35	22.22	22.83	23.30	12.67	13.28	13.15	13.76	14.23
	6H	22.20	22.71	22.72	23.22	23.72	12.87	13.38	13.39	13.89	14.38
	8H	22.37	22.82	22.88	23.31	23.88	12.96	13.41	13.48	13.91	14.48