

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: NEO-RAY

Report Number: P1056139

Luminaire Tested: S124R3DR-H1195D950-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056139  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-H1195D950-X4F0-XX-UDD-FLL-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

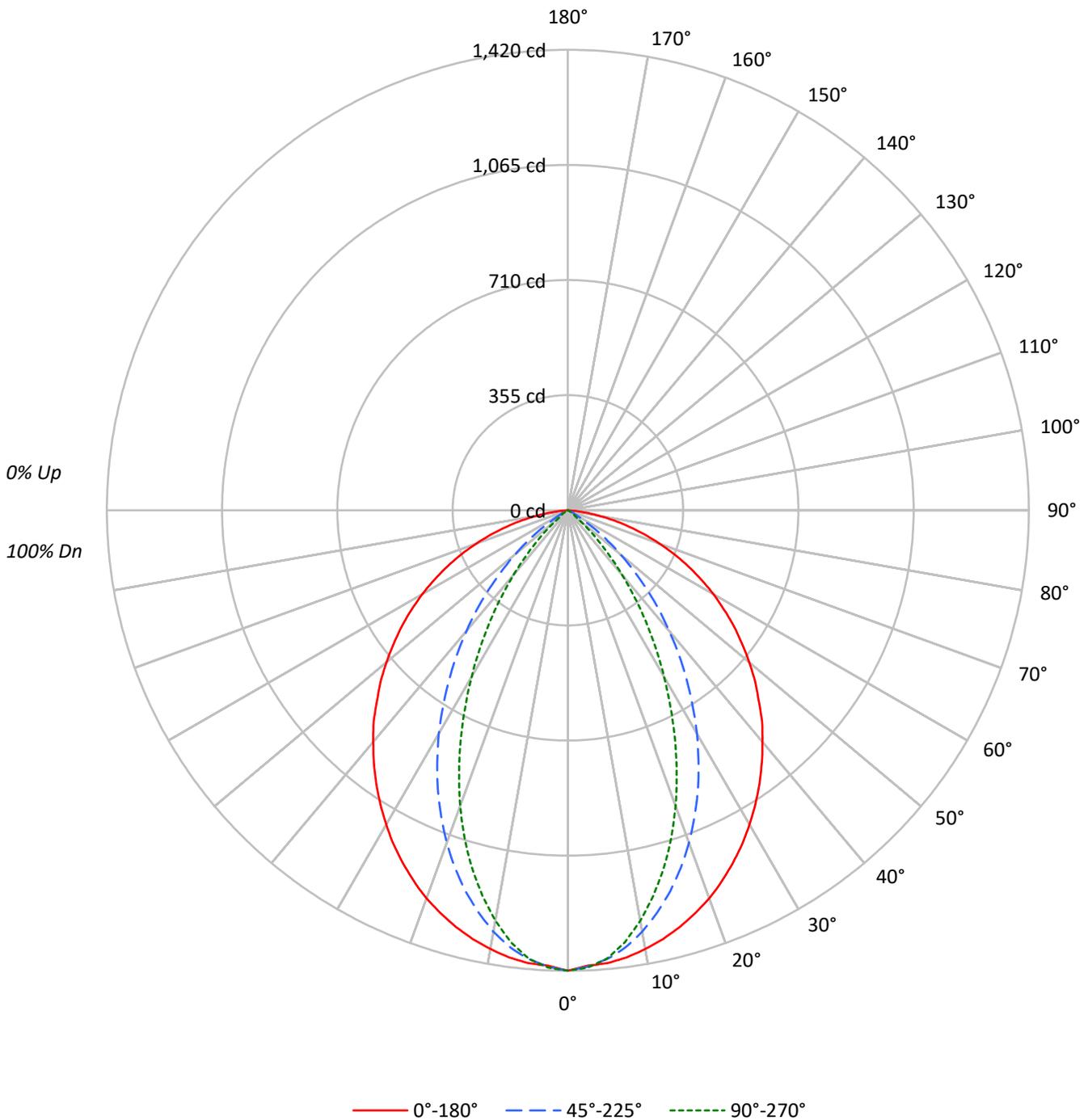
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1984.2 lumens  
Efficiency: N/A  
Efficacy: 54.2 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12551	12551	12551
5°	12439	12328	12315
10°	12333	11845	11533
15°	12178	11134	10447
20°	11982	10267	9127
25°	11717	9246	7617
30°	11424	8113	6053
35°	11101	6880	4506
40°	10763	5606	3004
45°	10389	4281	1653
50°	10031	2928	459
55°	9633	1588	301
60°	9154	492	172
65°	8561	320	88
70°	7734	145	36
75°	6654	48	0
80°	5030	0	0
85°	2120	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10389 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.0	6.6
10°-20°	343.8	17.3
20°-30°	444.3	22.4
30°-40°	424.6	21.4
40°-50°	317.6	16.0
50°-60°	189.0	9.5
60°-70°	96.0	4.8
70°-80°	33.4	1.7
80°-90°	4.6	0.2
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°	919.1	46.3
0°-40°	1343.7	67.7
0°-60°	1850.3	93.3
0°-90°	1984.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1984.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1402	1413	1389	1382	1388	133
15°	1330	1303	1216	1159	1141	375
25°	1201	1118	948	822	781	553
35°	1028	887	637	475	418	643
45°	831	637	342	182	132	642
55°	625	388	103	24	20	558
65°	409	157	15	6	4	405
75°	195	21	1	1	0	207
85°	21	0	0	0	0	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1419.6	1419.6	1419.6	1419.6	1419.6
2.5°	1405.7	1422.4	1408.5	1409.9	1411.3
5°	1401.5	1412.6	1389.0	1382.0	1387.6
7.5°	1390.4	1394.6	1359.8	1341.7	1343.1
10°	1373.7	1369.5	1319.4	1288.8	1284.6
12.5°	1354.2	1340.3	1270.7	1226.2	1216.4
15°	1330.5	1302.7	1216.4	1159.3	1141.3
17.5°	1302.7	1262.3	1156.6	1081.4	1059.1
20°	1273.5	1217.8	1091.2	997.9	970.1
22.5°	1238.7	1167.7	1020.2	910.2	875.4
25°	1201.1	1117.6	947.8	822.5	780.8
27.5°	1162.1	1063.3	871.3	733.5	684.8
30°	1119.0	1006.3	794.7	643.0	592.9
32.5°	1074.4	947.8	715.4	559.5	503.8
35°	1028.5	886.6	637.4	474.6	417.5
37.5°	981.2	825.3	562.3	393.9	335.4
40°	932.5	762.7	485.7	317.3	260.3
42.5°	885.2	700.1	413.4	245.0	192.1
45°	830.9	637.4	342.4	182.3	132.2
47.5°	782.2	576.2	274.2	123.9	77.9
50°	729.3	510.8	212.9	72.4	33.4
52.5°	676.4	449.5	155.9	32.0	25.1
55°	624.9	388.3	103.0	23.7	19.5
57.5°	570.6	327.1	55.7	18.1	13.9
60°	517.7	267.2	27.8	13.9	9.7
62.5°	463.5	210.2	22.3	8.4	5.6
65°	409.2	157.3	15.3	5.6	4.2
67.5°	354.9	107.2	9.7	2.8	1.4
70°	299.2	65.4	5.6	1.4	1.4
72.5°	246.3	33.4	2.8	1.4	1.4
75°	194.8	20.9	1.4	1.4	0.0
77.5°	144.7	11.1	1.4	1.4	0.0
80°	98.8	4.2	0.0	0.0	0.0
82.5°	57.1	1.4	0.0	0.0	0.0
85°	20.9	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	19.24	20.57	19.61	20.89	21.20	0.00	0.00	0.00	0.00	0.00
	3H	20.79	21.96	21.17	22.29	22.66	0.00	0.00	0.00	0.00	0.00
	4H	21.38	22.48	21.78	22.83	23.21	0.00	0.00	0.00	0.00	0.00
	6H	21.80	22.80	22.21	23.17	23.57	0.00	0.00	0.00	0.00	0.00
	8H	21.90	22.85	22.33	23.24	23.64	0.00	0.00	0.00	0.00	0.00
	12H	21.92	22.83	22.35	23.21	23.64	0.00	0.00	0.00	0.00	0.00
4H	2H	19.02	20.12	19.43	20.47	20.85	0.00	0.00	0.00	0.34	0.72
	3H	20.59	21.48	21.00	21.88	22.29	0.00	0.00	0.00	0.16	0.56
	4H	21.17	21.97	21.60	22.39	22.83	0.00	0.00	0.00	0.02	0.47
	6H	21.63	22.32	22.09	22.76	23.23	0.00	0.00	0.00	0.00	0.34
	8H	21.75	22.39	22.22	22.84	23.31	0.00	0.00	0.00	0.00	0.24
	12H	21.79	22.35	22.28	22.84	23.31	0.00	0.00	0.00	0.00	0.16
8H	4H	21.03	21.67	21.50	22.12	22.59	0.54	1.18	1.01	1.63	2.10
	6H	21.47	22.00	21.98	22.49	22.97	0.45	0.97	0.95	1.47	1.95
	8H	21.59	22.06	22.11	22.57	23.07	0.39	0.86	0.91	1.37	1.87
	12H	21.64	22.05	22.15	22.55	23.12	0.35	0.76	0.86	1.25	1.82
12H	4H	20.99	21.55	21.47	22.04	22.51	0.95	1.52	1.44	2.00	2.48
	6H	21.41	21.88	21.93	22.40	22.89	0.85	1.31	1.37	1.83	2.32
	8H	21.55	21.96	22.06	22.45	23.03	0.80	1.22	1.32	1.71	2.28