

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: P1056125

Luminaire Tested: S124R3DR-H1195D850-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056125  
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-H1195D850-X4F0-XX-UDD-FLL-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

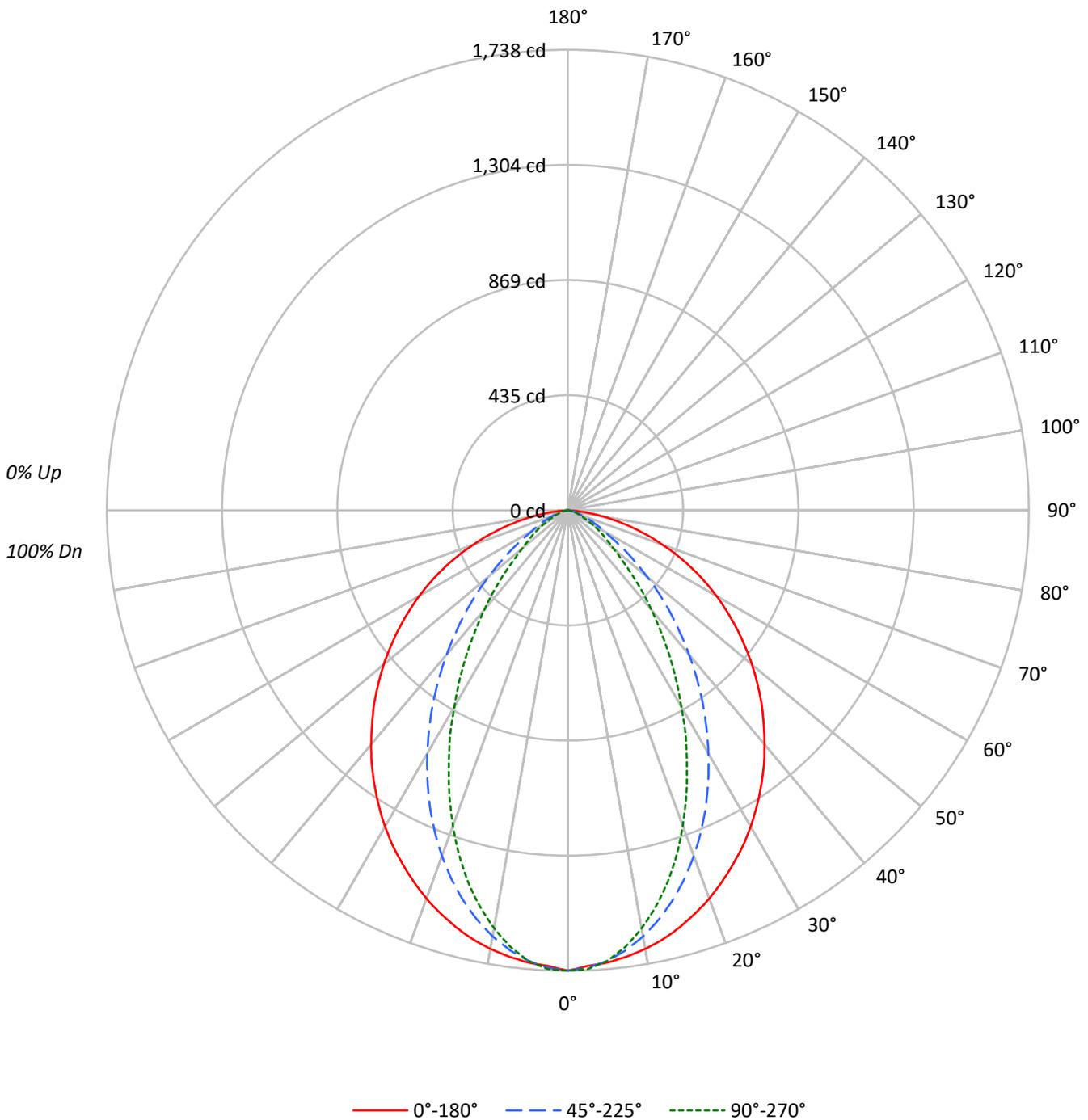
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2809.7 lumens  
Efficiency: N/A  
Efficacy: 76.8 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): 36.6  
Input Voltage (V): 120  
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									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°	15363	15363	15363
5°	15207	15149	15149
10°	15092	14656	14380
15°	14913	13950	13299
20°	14675	13061	11919
25°	14378	12011	10353
30°	14073	10819	8722
35°	13709	9552	7178
40°	13314	8198	5658
45°	12906	6817	4227
50°	12462	5363	3093
55°	11971	3965	2469
60°	11444	2746	1889
65°	10764	2132	1387
70°	9746	1504	1088
75°	8513	1049	830
80°	6838	825	743
85°	3774	659	659

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12906 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.2	5.7
10°-20°	430.7	15.3
20°-30°	574.4	20.4
30°-40°	578.3	20.6
40°-50°	474.3	16.9
50°-60°	324.2	11.5
60°-70°	181.2	6.4
70°-80°	71.8	2.6
80°-90°	13.6	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°	1166.2	41.5
0°-40°	1744.6	62.1
0°-60°	2543.1	90.5
0°-90°	2809.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2809.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1738	1738	1738	1738	1738	
5°	1713	1733	1707	1699	1707	163
15°	1629	1611	1524	1471	1453	459
25°	1474	1401	1231	1107	1061	679
35°	1270	1136	885	717	665	794
45°	1032	843	545	383	338	796
55°	777	545	257	172	160	695
65°	514	259	102	73	66	508
75°	249	68	31	26	24	267
85°	37	6	6	6	6	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1737.6	1737.6	1737.6	1737.6	1737.6
2.5°	1721.4	1742.5	1727.9	1729.5	1732.8
5°	1713.4	1732.8	1706.9	1698.8	1706.9
7.5°	1698.8	1713.4	1674.5	1658.3	1661.6
10°	1681.0	1685.9	1632.5	1605.0	1601.7
12.5°	1658.3	1651.9	1582.3	1541.9	1532.2
15°	1629.2	1611.4	1524.1	1470.7	1452.9
17.5°	1595.3	1564.5	1459.3	1389.8	1363.9
20°	1559.7	1514.4	1388.2	1299.2	1266.8
22.5°	1517.6	1461.0	1312.1	1203.7	1166.5
25°	1473.9	1401.1	1231.2	1106.6	1061.3
27.5°	1428.6	1339.6	1147.1	1008.0	962.7
30°	1378.5	1273.3	1059.7	909.3	854.3
32.5°	1325.1	1205.3	972.4	812.2	760.4
35°	1270.1	1135.8	885.0	716.7	665.0
37.5°	1213.4	1064.6	797.6	626.1	574.4
40°	1153.6	991.8	710.3	540.4	490.2
42.5°	1092.1	917.3	626.1	459.5	412.6
45°	1032.2	842.9	545.2	383.4	338.1
47.5°	969.1	768.5	466.0	312.3	273.4
50°	906.0	694.1	389.9	250.8	224.9
52.5°	841.3	619.7	320.3	205.5	187.7
55°	776.6	545.2	257.2	171.5	160.2
57.5°	711.9	470.8	199.0	145.6	132.7
60°	647.2	398.0	155.3	118.1	106.8
62.5°	580.8	325.2	127.8	93.8	84.1
65°	514.5	258.9	101.9	72.8	66.3
67.5°	448.2	197.4	77.7	56.6	51.8
70°	377.0	140.8	58.2	43.7	42.1
72.5°	315.5	95.5	42.1	34.0	32.4
75°	249.2	68.0	30.7	25.9	24.3
77.5°	192.5	43.7	22.7	21.0	19.4
80°	134.3	24.3	16.2	14.6	14.6
82.5°	82.5	12.9	11.3	9.7	9.7
85°	37.2	6.5	6.5	6.5	6.5
87.5°	6.5	3.2	3.2	3.2	3.2
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	20.22	21.62	20.58	21.94	22.25	11.31	12.71	11.67	13.03	13.34
	3H	21.80	23.05	22.18	23.38	23.75	11.90	13.15	12.28	13.48	13.84
	4H	22.40	23.57	22.80	23.92	24.30	12.06	13.22	12.46	13.57	13.96
	6H	22.83	23.90	23.24	24.27	24.67	12.16	13.24	12.58	13.61	14.00
	8H	22.94	23.96	23.37	24.35	24.76	12.18	13.20	12.61	13.59	14.00
	12H	22.98	23.96	23.42	24.34	24.77	12.19	13.17	12.62	13.55	13.98
4H	2H	20.07	21.24	20.47	21.59	21.97	11.89	13.06	12.29	13.41	13.79
	3H	21.72	22.68	22.13	23.08	23.48	12.60	13.56	13.01	13.96	14.37
	4H	22.32	23.18	22.76	23.60	24.04	12.81	13.66	13.24	14.08	14.52
	6H	22.82	23.56	23.28	24.00	24.47	12.97	13.71	13.43	14.16	14.62
	8H	22.96	23.65	23.43	24.10	24.57	13.01	13.70	13.47	14.14	14.61
	12H	23.03	23.65	23.52	24.13	24.60	13.03	13.64	13.52	14.13	14.60
8H	4H	22.22	22.91	22.68	23.35	23.82	13.08	13.77	13.54	14.22	14.68
	6H	22.70	23.26	23.20	23.76	24.24	13.28	13.85	13.78	14.34	14.82
	8H	22.84	23.35	23.36	23.86	24.35	13.34	13.85	13.86	14.36	14.85
	12H	22.93	23.38	23.45	23.88	24.44	13.40	13.85	13.91	14.34	14.91
12H	4H	22.18	22.79	22.66	23.27	23.75	13.10	13.72	13.59	14.20	14.67
	6H	22.64	23.15	23.16	23.67	24.16	13.31	13.82	13.83	14.33	14.82
	8H	22.81	23.26	23.32	23.75	24.32	13.40	13.85	13.92	14.35	14.91