

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: P1056107

Luminaire Tested: S124R3DR-H1020D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056107  
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-H1020D935-X4F0-XX-UDD-F-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

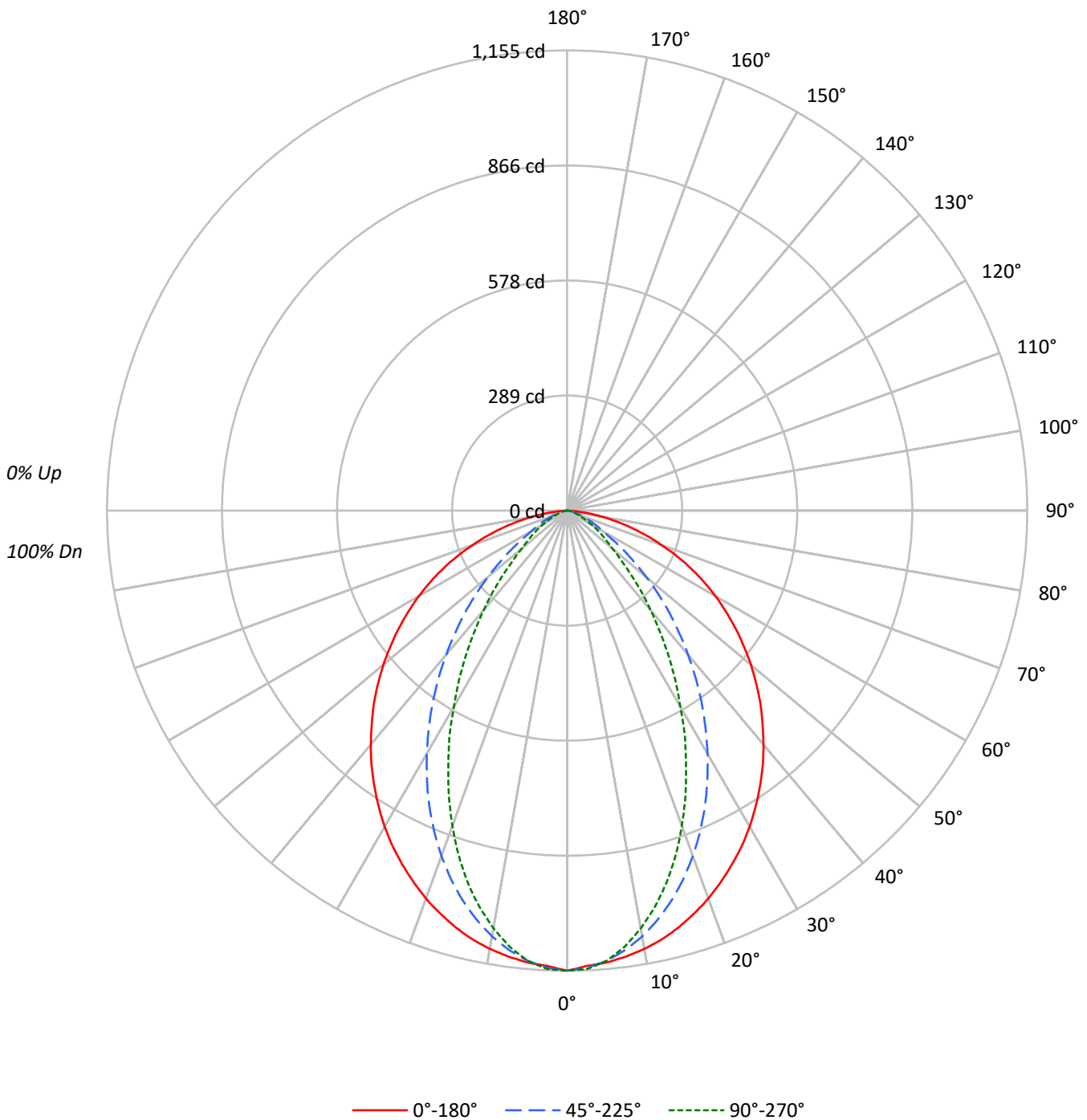
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1867.3 lumens  
Efficiency: N/A  
Efficacy: 60.4 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): 30.9  
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				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	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°	10210	10210	10210
5°	10106	10068	10068
10°	10030	9740	9557
15°	9911	9271	8838
20°	9752	8681	7921
25°	9556	7983	6881
30°	9353	7190	5796
35°	9111	6349	4770
40°	8849	5448	3760
45°	8577	4531	2810
50°	8282	3564	2056
55°	7955	2636	1642
60°	7605	1825	1255
65°	7153	1416	923
70°	6476	1000	724
75°	5657	697	550
80°	4542	550	494
85°	2506	436	436

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8577 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.1	5.7
10°-20°	286.2	15.3
20°-30°	381.7	20.4
30°-40°	384.4	20.6
40°-50°	315.2	16.9
50°-60°	215.5	11.5
60°-70°	120.4	6.4
70°-80°	47.7	2.6
80°-90°	9.1	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°	775.1	41.5
0°-40°	1159.4	62.1
0°-60°	1690.1	90.5
0°-90°	1867.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1867.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1155	1155	1155	1155	1155	
5°	1139	1152	1134	1129	1134	108
15°	1083	1071	1013	977	966	305
25°	980	931	818	736	705	451
35°	844	755	588	476	442	528
45°	686	560	362	255	225	529
55°	516	362	171	114	106	462
65°	342	172	68	48	44	338
75°	166	45	20	17	16	177
85°	25	4	4	4	4	35
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1154.8	1154.8	1154.8	1154.8	1154.8
2.5°	1144.1	1158.0	1148.4	1149.4	1151.6
5°	1138.7	1151.6	1134.4	1129.0	1134.4
7.5°	1129.0	1138.7	1112.9	1102.1	1104.3
10°	1117.2	1120.4	1084.9	1066.7	1064.5
12.5°	1102.1	1097.8	1051.6	1024.7	1018.3
15°	1082.8	1071.0	1012.9	977.4	965.6
17.5°	1060.2	1039.8	969.9	923.6	906.4
20°	1036.5	1006.4	922.6	863.4	841.9
22.5°	1008.6	971.0	872.0	800.0	775.3
25°	979.6	931.2	818.3	735.5	705.4
27.5°	949.4	890.3	762.4	669.9	639.8
30°	916.1	846.2	704.3	604.3	567.7
32.5°	880.6	801.1	646.2	539.8	505.4
35°	844.1	754.8	588.2	476.3	441.9
37.5°	806.4	707.5	530.1	416.1	381.7
40°	766.7	659.1	472.0	359.1	325.8
42.5°	725.8	609.7	416.1	305.4	274.2
45°	686.0	560.2	362.4	254.8	224.7
47.5°	644.1	510.7	309.7	207.5	181.7
50°	602.1	461.3	259.1	166.7	149.5
52.5°	559.1	411.8	212.9	136.6	124.7
55°	516.1	362.4	171.0	114.0	106.5
57.5°	473.1	312.9	132.3	96.8	88.2
60°	430.1	264.5	103.2	78.5	71.0
62.5°	386.0	216.1	84.9	62.4	55.9
65°	341.9	172.0	67.7	48.4	44.1
67.5°	297.8	131.2	51.6	37.6	34.4
70°	250.5	93.5	38.7	29.0	28.0
72.5°	209.7	63.4	28.0	22.6	21.5
75°	165.6	45.2	20.4	17.2	16.1
77.5°	128.0	29.0	15.1	14.0	12.9
80°	89.2	16.1	10.8	9.7	9.7
82.5°	54.8	8.6	7.5	6.5	6.5
85°	24.7	4.3	4.3	4.3	4.3
87.5°	4.3	2.2	2.2	2.2	2.2
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1056107

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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	18.80	20.20	19.16	20.52	20.83	9.89	11.29	10.25	11.61	11.92
	3H	20.38	21.63	20.76	21.96	22.33	10.48	11.73	10.86	12.06	12.42
	4H	20.98	22.15	21.38	22.50	22.88	10.64	11.80	11.04	12.15	12.54
	6H	21.41	22.48	21.82	22.85	23.25	10.74	11.82	11.16	12.19	12.58
	8H	21.52	22.54	21.95	22.93	23.34	10.76	11.78	11.19	12.18	12.58
	12H	21.56	22.54	22.00	22.92	23.35	10.77	11.75	11.20	12.13	12.56
4H	2H	18.65	19.82	19.05	20.17	20.55	10.47	11.64	10.87	11.99	12.37
	3H	20.30	21.26	20.71	21.66	22.06	11.18	12.14	11.59	12.54	12.95
	4H	20.90	21.76	21.34	22.18	22.62	11.39	12.24	11.82	12.66	13.10
	6H	21.40	22.14	21.86	22.58	23.05	11.55	12.29	12.01	12.74	13.20
	8H	21.54	22.23	22.01	22.68	23.15	11.59	12.28	12.05	12.72	13.19
	12H	21.61	22.22	22.10	22.71	23.18	11.61	12.23	12.10	12.71	13.18
8H	4H	20.80	21.49	21.26	21.93	22.40	11.66	12.35	12.12	12.80	13.26
	6H	21.28	21.84	21.78	22.34	22.82	11.86	12.43	12.36	12.92	13.40
	8H	21.42	21.93	21.94	22.44	22.93	11.92	12.43	12.44	12.94	13.43
	12H	21.51	21.96	22.03	22.45	23.02	11.98	12.43	12.49	12.92	13.49
12H	4H	20.76	21.37	21.24	21.85	22.33	11.68	12.30	12.17	12.78	13.25
	6H	21.22	21.73	21.74	22.25	22.74	11.89	12.40	12.41	12.91	13.40
	8H	21.39	21.84	21.90	22.33	22.90	11.98	12.43	12.50	12.93	13.50