

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: P1060647

Luminaire Tested: S124RDRP-H1020D840-X4F0-XX-UDD-SVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1060647  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-74)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-H1020D840-X4F0-XX-UDD-SVL-W  
Description: DEFINE 4 WHITE REGRESSED DIRECT RECESSED HOUSING WITH SILVER STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

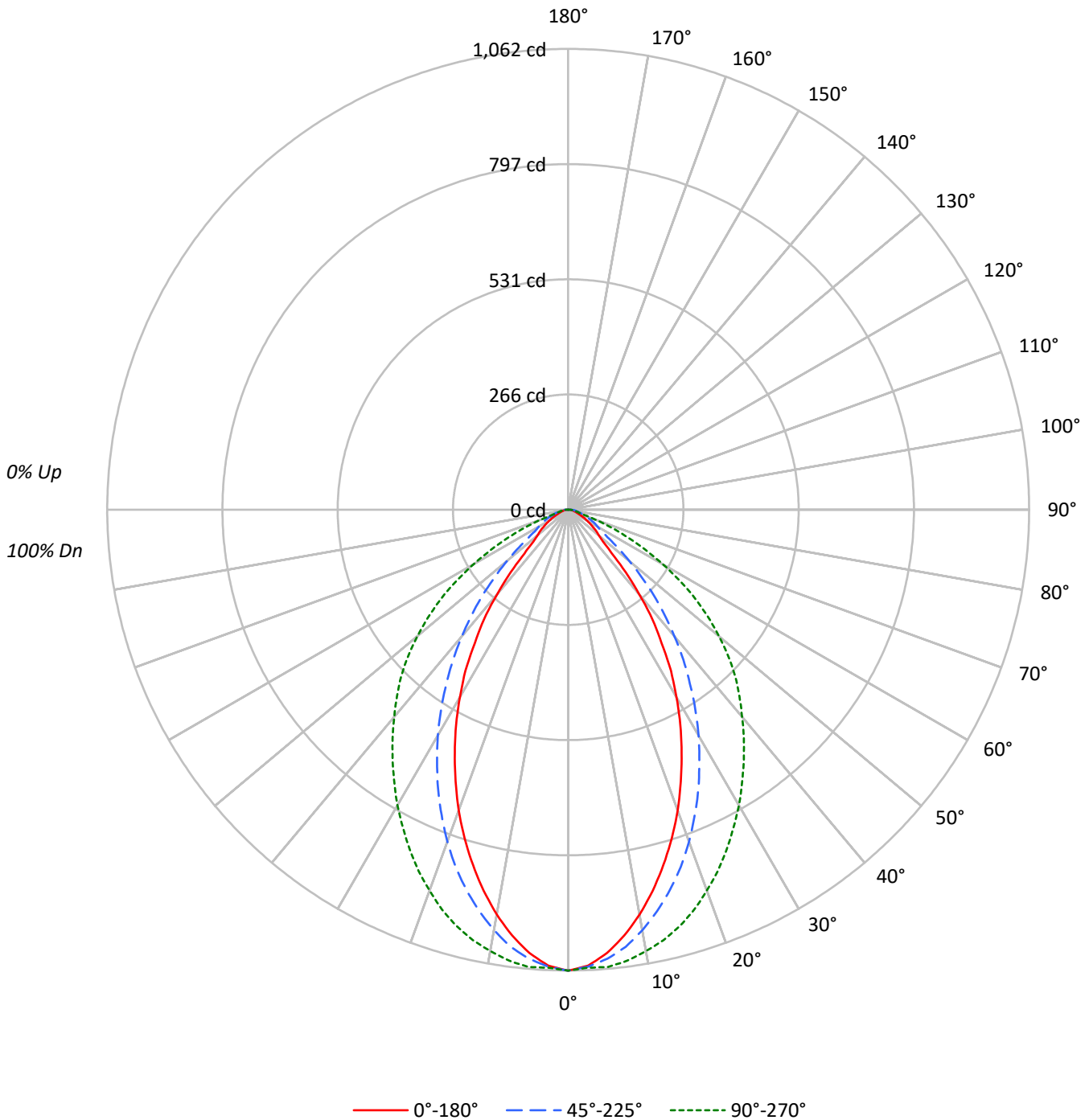
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1503.6 lumens  
Efficiency: N/A  
Efficacy: 48.2 lumens/watt  
Spacing Criteria (0/90/45): 0.83 / 1.12 / 1.01  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.2  
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									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													100															
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89													89															
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79													79															
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70													70															
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63													63															
5	84	73	66	60	82	72	65	60	70	64	60	69	63	59	67	62	58	57													57															
6	79	67	60	54	77	67	59	54	65	59	54	63	58	53	62	57	53	51													51															
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47													47															
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43													43															
9	65	54	46	42	64	53	46	41	52	46	41	51	45	41	50	45	41	39													39															
10	62	50	43	38	60	49	43	38	49	42	38	48	42	38	47	42	38	36													36															

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

	0°	45°	90°
0°	9148	9148	9148
5°	8864	8978	9142
10°	8282	8604	9030
15°	7555	8084	8857
20°	6755	7462	8560
25°	5876	6744	8210
30°	4957	5972	7825
35°	3943	5140	7412
40°	2869	4283	7005
45°	1734	3382	6635
50°	1241	2449	6074
55°	1051	1657	5364
60°	859	1349	4333
65°	676	1208	3120
70°	569	1017	1644
75°	512	948	828
80°	531	942	823
85°	701	1403	939

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 6635 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.8	6.5
10°-20°	256.3	17.0
20°-30°	332.4	22.1
30°-40°	320.0	21.3
40°-50°	238.0	15.8
50°-60°	146.4	9.7
60°-70°	71.9	4.8
70°-80°	28.0	1.9
80°-90°	12.8	0.9
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°	686.5	45.7
0°-40°	1006.4	66.9
0°-60°	1390.8	92.5
0°-90°	1503.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1503.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1026	1041	1039	1048	1058	95
15°	848	875	907	961	994	237
25°	618	652	710	799	864	283
35°	375	411	489	611	705	234
45°	142	177	278	428	545	118
55°	70	72	110	252	357	63
65°	33	36	59	95	153	34
75°	15	27	28	26	25	17
85°	7	13	14	14	10	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1062.3	1062.3	1062.3	1062.3	1062.3
2.5°	1051.7	1063.5	1054.0	1055.2	1056.4
5°	1025.5	1041.0	1038.6	1048.1	1057.6
7.5°	989.9	1007.7	1016.0	1035.0	1048.1
10°	947.2	967.4	984.0	1014.9	1032.7
12.5°	899.7	923.5	947.2	988.7	1016.0
15°	847.5	874.8	906.8	961.4	993.5
17.5°	794.1	821.4	862.9	925.8	966.2
20°	737.1	766.8	814.3	884.3	934.1
22.5°	677.8	709.8	762.0	841.6	900.9
25°	618.4	651.6	709.8	798.8	864.1
27.5°	559.1	591.1	654.0	753.7	824.9
30°	498.5	531.8	600.6	705.1	787.0
32.5°	440.4	471.2	544.8	658.8	745.4
35°	375.1	410.7	489.0	611.3	705.1
37.5°	319.3	351.3	435.6	563.8	664.7
40°	255.2	290.8	381.0	517.5	623.2
42.5°	195.8	231.5	328.8	471.2	584.0
45°	142.4	176.9	277.7	428.5	544.8
47.5°	108.0	128.2	227.9	387.0	500.9
50°	92.6	98.5	182.8	341.8	453.4
52.5°	81.9	84.3	142.4	296.7	405.9
55°	70.0	72.4	110.4	251.6	357.3
57.5°	59.3	60.5	89.0	208.9	305.0
60°	49.9	51.0	78.3	167.4	251.6
62.5°	41.5	42.7	70.0	129.4	200.6
65°	33.2	35.6	59.3	95.0	153.1
67.5°	27.3	32.0	49.9	66.5	106.8
70°	22.6	30.9	40.4	46.3	65.3
72.5°	19.0	28.5	34.4	33.2	32.0
75°	15.4	27.3	28.5	26.1	24.9
77.5°	13.1	23.7	23.7	21.4	20.2
80°	10.7	19.0	19.0	19.0	16.6
82.5°	9.5	15.4	16.6	16.6	13.1
85°	7.1	13.1	14.2	14.2	9.5
87.5°	4.7	11.9	13.1	11.9	7.1
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	7.47	8.81	7.84	9.13	9.44	16.64	17.99	17.01	18.30	18.61
	3H	8.58	9.77	8.96	10.10	10.47	17.15	18.34	17.53	18.67	19.04
	4H	9.10	10.21	9.50	10.56	10.94	17.17	18.28	17.57	18.63	19.01
	6H	9.54	10.56	9.95	10.93	11.32	17.18	18.20	17.60	18.57	18.97
	8H	9.73	10.69	10.16	11.09	11.49	17.18	18.15	17.61	18.54	18.95
	12H	9.91	10.83	10.34	11.22	11.65	17.19	18.11	17.62	18.49	18.92
4H	2H	8.62	9.73	9.02	10.08	10.46	16.53	17.65	16.94	18.00	18.38
	3H	9.96	10.87	10.37	11.27	11.67	17.12	18.03	17.54	18.44	18.84
	4H	10.69	11.51	11.13	11.93	12.37	17.18	18.00	17.62	18.42	18.86
	6H	11.30	12.01	11.77	12.45	12.92	17.26	17.96	17.72	18.41	18.87
	8H	11.55	12.20	12.01	12.65	13.12	17.29	17.95	17.76	18.39	18.86
	12H	11.78	12.36	12.27	12.85	13.32	17.33	17.91	17.82	18.39	18.87
8H	4H	11.16	11.82	11.63	12.26	12.73	17.14	17.80	17.61	18.24	18.71
	6H	12.01	12.55	12.51	13.04	13.52	17.27	17.81	17.77	18.30	18.78
	8H	12.42	12.90	12.94	13.41	13.91	17.35	17.84	17.87	18.35	18.84
	12H	12.84	13.27	13.35	13.76	14.33	17.47	17.90	17.99	18.39	18.97
12H	4H	11.21	11.80	11.70	12.28	12.75	17.11	17.69	17.60	18.18	18.65
	6H	12.14	12.63	12.66	13.14	13.63	17.25	17.73	17.77	18.25	18.74
	8H	12.66	13.09	13.18	13.59	14.16	17.38	17.81	17.90	18.31	18.88