

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: P1060243

Luminaire Tested: S124RDRP-S1020D840-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1060243  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-37)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-S1020D840-X4F0-XX-UDD-WVL-B  
Description: DEFINE 4 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

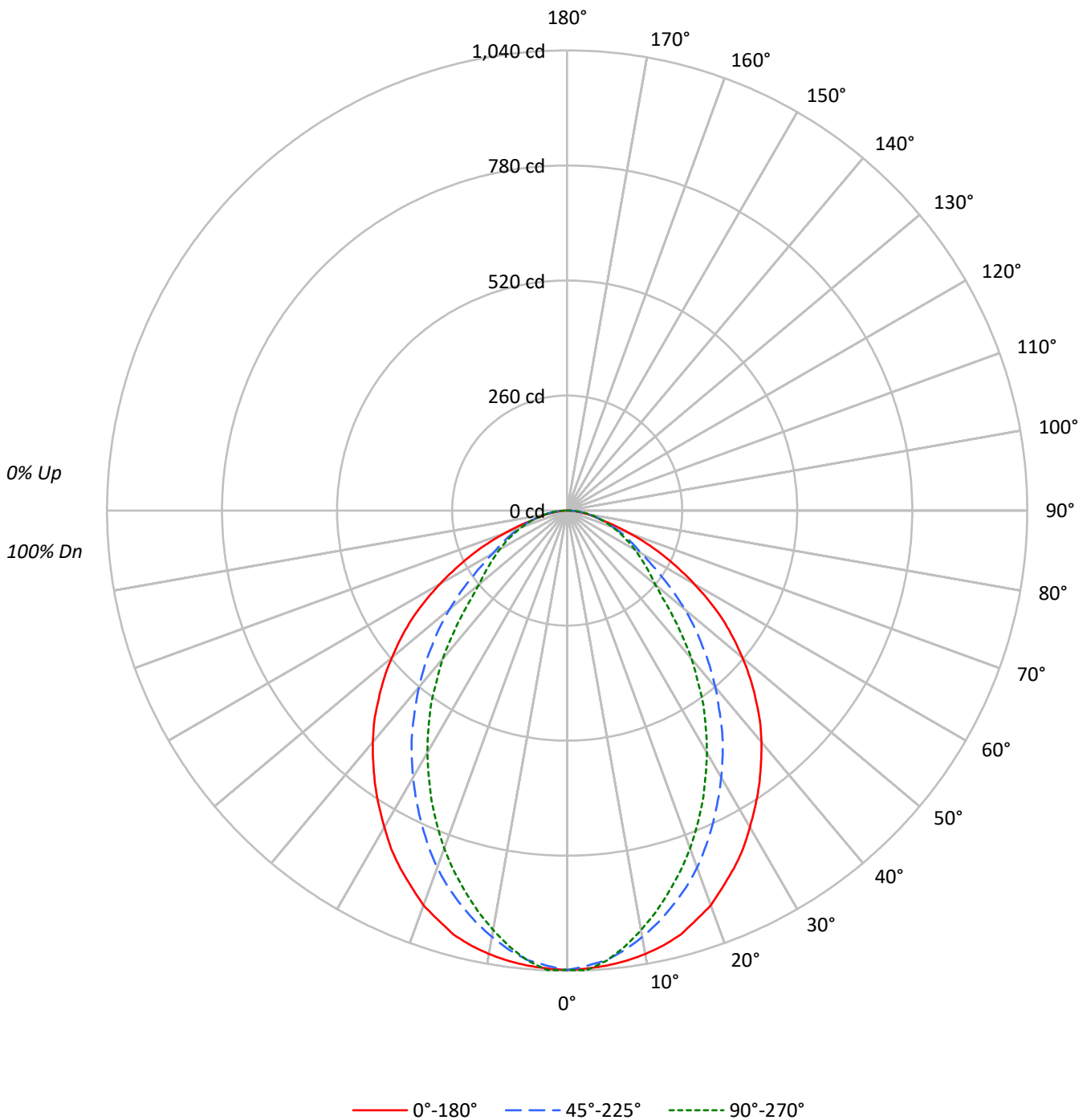
Lumens per Lamp: N/A  
Luminaire Lumens: 2002.0 lumens  
Efficiency: N/A  
Efficacy: 57.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.96 / 1.12  
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 35  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	86	82	89	84	80	85	82	78	82	79	76	74
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66	64
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	54	48	72	61	53	47	59	52	47	58	51	47	56	51	46	44
7	69	57	48	43	68	56	48	43	54	47	42	53	47	42	52	46	42	40
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32	30

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

	0°	45°	90°
0°	8941	8941	8941
5°	8922	8817	8827
10°	8897	8556	8417
15°	8843	8234	7941
20°	8698	7871	7446
25°	8474	7407	6886
30°	8213	6927	6284
35°	7951	6426	5643
40°	7680	5857	4924
45°	7340	5260	4116
50°	6930	4642	3482
55°	6448	3938	3223
60°	5716	3341	3047
65°	4872	3083	2883
70°	3809	2858	2734
75°	2598	2638	2638
80°	2236	2479	2539
85°	1927	2411	2648

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7340 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.6	4.8
10°-20°	262.3	13.1
20°-30°	364.2	18.2
30°-40°	390.4	19.5
40°-50°	345.9	17.3
50°-60°	260.6	13.0
60°-70°	168.8	8.4
70°-80°	86.6	4.3
80°-90°	26.6	1.3
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°	723.1	36.1
0°-40°	1113.6	55.6
0°-60°	1720.1	85.9
0°-90°	2002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2002.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1038	1038	1038	1038	1038	
5°	1032	1033	1020	1021	1021	98
15°	992	970	924	900	891	279
25°	892	844	780	738	725	410
35°	756	688	611	556	537	473
45°	603	525	432	365	338	465
55°	430	358	262	221	215	382
65°	239	193	151	143	142	237
75°	78	82	79	79	79	92
85°	20	21	24	27	27	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1038.3	1038.3	1038.3	1038.3	1038.3
2.5°	1035.8	1039.5	1029.7	1037.1	1039.5
5°	1032.2	1033.4	1020.0	1021.2	1021.2
7.5°	1026.1	1023.6	1001.7	995.6	994.4
10°	1017.5	1010.2	978.5	966.3	962.6
12.5°	1006.6	993.1	952.9	935.8	928.5
15°	991.9	970.0	923.6	900.4	890.7
17.5°	970.0	941.9	893.1	863.8	852.8
20°	949.2	911.4	858.9	822.3	812.6
22.5°	919.9	879.7	819.9	780.8	768.6
25°	891.9	844.3	779.6	738.1	724.7
27.5°	861.4	807.7	738.1	694.2	677.1
30°	826.0	768.6	696.7	650.3	632.0
32.5°	791.8	730.8	654.0	602.7	583.2
35°	756.4	688.1	611.3	556.4	536.8
37.5°	719.8	647.9	563.7	510.0	484.4
40°	683.2	607.6	521.0	460.0	438.0
42.5°	645.4	566.1	477.1	413.6	385.5
45°	602.7	524.6	431.9	364.8	338.0
47.5°	561.2	484.4	390.4	317.2	292.8
50°	517.3	441.7	346.5	275.7	259.9
52.5°	473.4	397.7	303.8	244.0	236.7
55°	429.5	357.5	262.3	220.8	214.7
57.5°	380.7	316.0	225.7	200.1	195.2
60°	331.9	270.9	194.0	180.6	176.9
62.5°	284.3	231.8	172.0	161.1	158.6
65°	239.1	192.8	151.3	142.7	141.5
67.5°	195.2	158.6	131.8	126.9	124.4
70°	151.3	126.9	113.5	111.0	108.6
72.5°	112.2	102.5	96.4	95.2	93.9
75°	78.1	81.7	79.3	79.3	79.3
77.5°	62.2	63.4	64.7	65.9	64.7
80°	45.1	48.8	50.0	52.5	51.2
82.5°	31.7	34.2	37.8	39.0	40.3
85°	19.5	20.7	24.4	26.8	26.8
87.5°	8.5	9.8	12.2	14.6	15.9
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	18.05	19.55	18.42	19.86	20.18	14.61	16.11	14.98	16.43	16.74
	3H	19.26	20.60	19.63	20.93	21.29	16.31	17.65	16.69	17.98	18.34
	4H	19.56	20.82	19.96	21.17	21.55	16.99	18.25	17.39	18.60	18.98
	6H	19.76	20.93	20.18	21.29	21.69	17.54	18.70	17.95	19.07	19.46
	8H	19.82	20.93	20.25	21.32	21.72	17.75	18.86	18.18	19.25	19.65
	12H	19.86	20.92	20.29	21.30	21.73	17.93	18.99	18.36	19.37	19.80
4H	2H	18.19	19.45	18.59	19.80	20.18	15.27	16.53	15.67	16.88	17.26
	3H	19.59	20.64	20.01	21.04	21.44	17.18	18.23	17.60	18.63	19.03
	4H	20.02	20.96	20.45	21.38	21.82	17.99	18.93	18.42	19.34	19.78
	6H	20.34	21.16	20.80	21.60	22.07	18.67	19.49	19.13	19.94	20.40
	8H	20.44	21.21	20.91	21.65	22.12	18.95	19.71	19.41	20.16	20.62
	12H	20.51	21.20	21.00	21.67	22.15	19.18	19.86	19.66	20.34	20.81
8H	4H	20.15	20.91	20.61	21.36	21.82	18.30	19.07	18.77	19.51	19.98
	6H	20.57	21.20	21.07	21.69	22.17	19.13	19.76	19.63	20.26	20.73
	8H	20.73	21.29	21.24	21.80	22.29	19.50	20.06	20.01	20.57	21.06
	12H	20.85	21.36	21.36	21.85	22.41	19.83	20.33	20.34	20.82	21.39
12H	4H	20.15	20.84	20.64	21.31	21.79	18.33	19.01	18.81	19.49	19.96
	6H	20.59	21.16	21.11	21.67	22.16	19.19	19.76	19.71	20.27	20.76
	8H	20.80	21.30	21.31	21.80	22.36	19.62	20.13	20.13	20.62	21.18