

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: P1060657

Luminaire Tested: S124RDRP-H1020D850-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1060657  
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-H1020D850-X4F0-XX-UDD-WVL-B  
Description: DEFINE 4 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

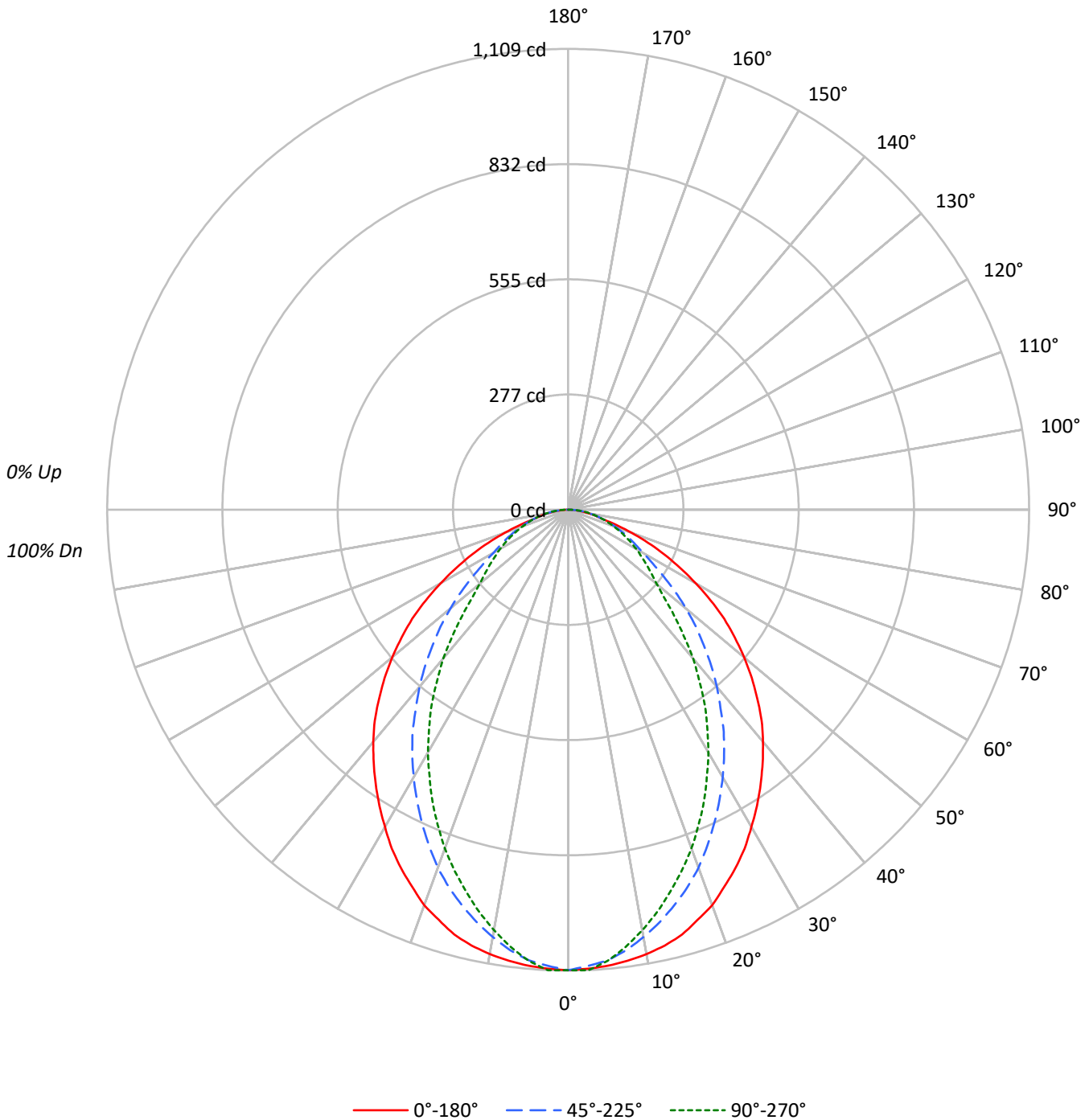
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2136.6 lumens  
Efficiency: N/A  
Efficacy: 68.5 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): 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	9542	9542	9542
5°	9522	9409	9420
10°	9495	9131	8983
15°	9437	8787	8474
20°	9283	8400	7947
25°	9043	7905	7348
30°	8765	7393	6707
35°	8487	6857	6022
40°	8197	6250	5254
45°	7833	5613	4393
50°	7396	4954	3715
55°	6880	4202	3441
60°	6100	3565	3252
65°	5200	3291	3077
70°	4066	3049	2918
75°	2771	2815	2815
80°	2390	2648	2713
85°	2055	2569	2826

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7833 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.1	4.8
10°-20°	280.0	13.1
20°-30°	388.7	18.2
30°-40°	416.6	19.5
40°-50°	369.1	17.3
50°-60°	278.2	13.0
60°-70°	180.1	8.4
70°-80°	92.4	4.3
80°-90°	28.4	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°	771.8	36.1
0°-40°	1188.4	55.6
0°-60°	1835.7	85.9
0°-90°	2136.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2136.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1108	1108	1108	1108	1108	
5°	1102	1103	1088	1090	1090	105
15°	1059	1035	986	961	950	298
25°	952	901	832	788	773	438
35°	807	734	652	594	573	505
45°	643	560	461	389	361	496
55°	458	382	280	236	229	407
65°	255	206	162	152	151	253
75°	83	87	85	85	85	99
85°	21	22	26	29	29	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1108.1	<i>1108.1</i>	1108.1	1108.1	1108.1
2.5°	<i>1105.5</i>	<i>1109.4</i>	<i>1099.0</i>	<i>1106.8</i>	<i>1109.4</i>
5°	1101.6	<i>1102.9</i>	1088.5	1089.8	1089.8
7.5°	1095.1	<i>1092.4</i>	1069.0	1062.5	1061.2
10°	1085.9	<i>1078.1</i>	1044.3	1031.3	1027.3
12.5°	1074.2	<i>1059.9</i>	1016.9	998.7	990.9
15°	1058.6	<i>1035.2</i>	985.7	960.9	950.5
17.5°	1035.2	<i>1005.2</i>	953.1	921.9	910.2
20°	1013.0	<i>972.7</i>	916.7	877.6	867.2
22.5°	981.8	<i>938.8</i>	875.0	833.3	820.3
25°	951.8	<i>901.0</i>	832.0	787.8	773.4
27.5°	919.3	<i>862.0</i>	787.8	740.9	722.7
30°	881.5	<i>820.3</i>	743.5	694.0	674.5
32.5°	845.1	<i>779.9</i>	697.9	643.2	622.4
35°	807.3	<i>734.4</i>	652.3	593.8	572.9
37.5°	768.2	<i>691.4</i>	601.6	544.3	516.9
40°	729.2	<i>648.4</i>	556.0	490.9	467.4
42.5°	688.8	<i>604.2</i>	509.1	441.4	411.5
45°	643.2	<i>559.9</i>	460.9	389.3	360.7
47.5°	599.0	<i>516.9</i>	416.7	338.5	312.5
50°	552.1	<i>471.4</i>	369.8	294.3	277.3
52.5°	505.2	<i>424.5</i>	324.2	260.4	252.6
55°	458.3	<i>381.5</i>	279.9	235.7	229.2
57.5°	406.3	<i>337.2</i>	240.9	213.5	208.3
60°	354.2	<i>289.1</i>	207.0	192.7	188.8
62.5°	303.4	<i>247.4</i>	183.6	171.9	169.3
65°	255.2	<i>205.7</i>	161.5	152.3	151.0
67.5°	208.3	<i>169.3</i>	140.6	135.4	132.8
70°	161.5	<i>135.4</i>	121.1	118.5	115.9
72.5°	119.8	<i>109.4</i>	102.9	101.6	100.3
75°	83.3	<i>87.2</i>	84.6	84.6	84.6
77.5°	66.4	<i>67.7</i>	69.0	70.3	69.0
80°	48.2	<i>52.1</i>	53.4	56.0	54.7
82.5°	33.9	<i>36.5</i>	40.4	41.7	43.0
85°	20.8	<i>22.1</i>	26.0	28.6	28.6
87.5°	9.1	<i>10.4</i>	13.0	15.6	16.9
90°	0.0	<i>0.0</i>	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	18.28	19.77	18.64	20.09	20.40	14.84	16.34	15.20	16.65	16.97
	3H	19.48	20.82	19.86	21.15	21.51	16.54	17.88	16.91	18.21	18.57
	4H	19.79	21.05	20.19	21.40	21.77	17.21	18.47	17.61	18.82	19.20
	6H	19.99	21.15	20.40	21.52	21.91	17.76	18.93	18.17	19.29	19.68
	8H	20.05	21.16	20.48	21.55	21.95	17.98	19.09	18.41	19.48	19.88
	12H	20.08	21.14	20.51	21.52	21.95	18.15	19.21	18.58	19.59	20.02
4H	2H	18.42	19.68	18.82	20.03	20.41	15.50	16.76	15.90	17.11	17.49
	3H	19.82	20.86	20.23	21.27	21.67	17.41	18.46	17.82	18.86	19.26
	4H	20.25	21.19	20.68	21.60	22.04	18.21	19.15	18.64	19.57	20.01
	6H	20.57	21.39	21.03	21.83	22.29	18.90	19.72	19.36	20.16	20.62
	8H	20.67	21.43	21.13	21.88	22.35	19.17	19.94	19.64	20.38	20.85
	12H	20.74	21.42	21.22	21.90	22.37	19.40	20.09	19.89	20.57	21.04
8H	4H	20.37	21.14	20.84	21.58	22.05	18.53	19.29	18.99	19.74	20.20
	6H	20.79	21.43	21.29	21.92	22.40	19.36	19.99	19.85	20.48	20.96
	8H	20.95	21.52	21.47	22.03	22.52	19.72	20.29	20.24	20.80	21.29
	12H	21.08	21.58	21.59	22.07	22.64	20.06	20.56	20.57	21.05	21.62
12H	4H	20.38	21.06	20.86	21.54	22.01	18.56	19.24	19.04	19.72	20.19
	6H	20.82	21.39	21.33	21.90	22.39	19.42	19.99	19.93	20.50	20.98
	8H	21.03	21.53	21.54	22.02	22.59	19.85	20.35	20.36	20.84	21.41