

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: P1060653

Luminaire Tested: S124RDR-H1020D850-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060653  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-75)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H1020D850-X4F0-XX-UDD-BVL-W  
Description: DEFINE 4 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

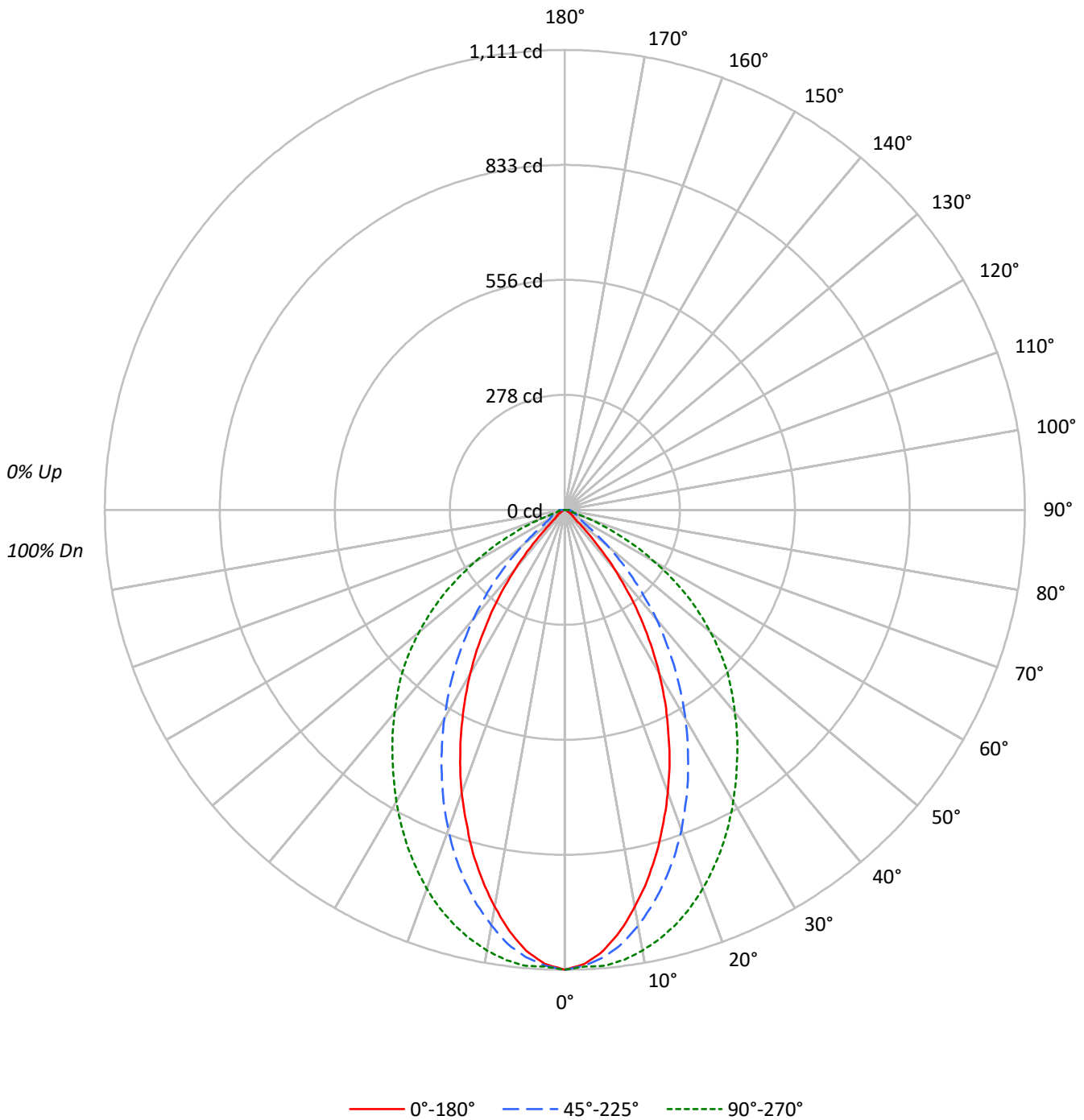
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1400.0 lumens  
Efficiency: N/A  
Efficacy: 44.9 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.96  
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 (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	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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				
2	105	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	81				
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72				
4	91	82	75	70	89	81	75	70	79	73	69	76	72	68	74	70	67	65				
5	86	75	68	63	84	74	68	63	72	67	62	71	66	62	69	65	61	59				
6	80	70	62	57	79	69	62	57	67	61	56	66	60	56	64	59	56	54				
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49				
8	71	60	53	48	70	59	52	48	58	52	48	57	51	47	56	51	47	45				
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42				
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39				

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

	0°	45°	90°
0°	9565	9565	9565
5°	9241	9376	9557
10°	8516	8915	9450
15°	7648	8287	9240
20°	6667	7539	8925
25°	5624	6689	8535
30°	4537	5782	8090
35°	3358	4838	7634
40°	2081	3855	7182
45°	826	2811	6764
50°	367	1764	6148
55°	294	920	5382
60°	202	696	4288
65°	132	691	2948
70°	131	624	1380
75°	173	609	609
80°	258	709	709
85°	514	1413	1028

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 6764 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.9	7.3
10°-20°	263.0	18.8
20°-30°	332.0	23.7
30°-40°	304.6	21.8
40°-50°	207.4	14.8
50°-60°	113.0	8.1
60°-70°	48.9	3.5
70°-80°	17.8	1.3
80°-90°	11.4	0.8
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°	696.8	49.8
0°-40°	1001.4	71.5
0°-60°	1321.8	94.4
0°-90°	1400.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1400.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1111	1111	1111	1111	1111	
5°	1069	1083	1085	1096	1106	99
15°	858	888	930	996	1036	239
25°	592	634	704	816	898	270
35°	319	366	460	606	726	197
45°	68	113	231	409	555	63
55°	20	21	61	226	358	17
65°	6	9	34	70	145	8
75°	5	17	18	18	18	6
85°	5	12	14	14	10	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1110.8	1110.8	1110.8	1110.8	1110.8
2.5°	1097.8	1110.8	1101.7	1104.3	1104.3
5°	1069.1	1083.4	1084.7	1096.5	1105.6
7.5°	1026.1	1046.9	1057.4	1080.8	1096.5
10°	973.9	998.7	1019.6	1060.0	1080.8
12.5°	917.9	946.5	977.8	1031.3	1061.3
15°	857.9	887.9	929.6	996.1	1036.5
17.5°	791.4	827.9	878.8	958.3	1007.8
20°	727.5	764.0	822.7	912.6	973.9
22.5°	661.0	698.8	764.0	864.4	937.4
25°	591.9	633.6	704.0	816.2	898.3
27.5°	524.1	568.4	642.8	765.3	856.6
30°	456.3	500.7	581.5	713.2	813.6
32.5°	387.2	432.9	520.2	658.4	769.2
35°	319.4	366.4	460.2	606.3	726.2
37.5°	250.3	299.9	400.3	555.4	683.2
40°	185.1	234.7	342.9	504.6	638.9
42.5°	123.9	173.4	284.2	455.0	597.1
45°	67.8	113.4	230.8	409.4	555.4
47.5°	36.5	62.6	178.6	365.1	508.5
50°	27.4	33.9	131.7	318.1	458.9
52.5°	23.5	26.1	91.3	268.6	409.4
55°	19.6	20.9	61.3	225.6	358.5
57.5°	15.6	16.9	45.6	182.5	303.8
60°	11.7	14.3	40.4	140.8	249.0
62.5°	9.1	11.7	37.8	103.0	196.9
65°	6.5	9.1	33.9	70.4	144.7
67.5°	6.5	10.4	28.7	45.6	97.8
70°	5.2	14.3	24.8	30.0	54.8
72.5°	5.2	15.6	20.9	20.9	20.9
75°	5.2	16.9	18.3	18.3	18.3
77.5°	5.2	15.6	16.9	15.6	15.6
80°	5.2	14.3	14.3	14.3	14.3
82.5°	5.2	13.0	14.3	14.3	11.7
85°	5.2	11.7	14.3	14.3	10.4
87.5°	3.9	11.7	13.0	13.0	7.8
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	0.00	0.14	0.00	0.45	0.76	16.25	17.53	16.62	17.84	18.16
	3H	0.29	1.42	0.67	1.75	2.12	16.63	17.76	17.01	18.09	18.46
	4H	1.51	2.56	1.91	2.91	3.30	16.61	17.66	17.01	18.01	18.40
	6H	2.69	3.66	3.11	4.03	4.42	16.60	17.56	17.01	17.93	18.33
	8H	3.28	4.20	3.71	4.59	4.99	16.60	17.51	17.03	17.90	18.31
	12H	3.95	4.83	4.39	5.21	5.64	16.61	17.48	17.04	17.87	18.30
4H	2H	2.49	3.54	2.90	3.90	4.28	16.06	17.12	16.47	17.47	17.85
	3H	4.08	4.93	4.49	5.34	5.74	16.48	17.34	16.90	17.75	18.15
	4H	5.37	6.13	5.80	6.55	7.00	16.48	17.25	16.92	17.67	18.11
	6H	6.49	7.15	6.96	7.60	8.07	16.52	17.18	16.99	17.63	18.10
	8H	7.00	7.62	7.47	8.07	8.54	16.55	17.17	17.02	17.62	18.09
	12H	7.55	8.10	8.04	8.58	9.05	16.61	17.16	17.10	17.64	18.12
8H	4H	6.45	7.07	6.92	7.52	7.99	16.39	17.01	16.86	17.46	17.93
	6H	7.99	8.50	8.49	8.99	9.48	16.47	16.98	16.97	17.47	17.95
	8H	8.80	9.25	9.32	9.77	10.26	16.55	17.01	17.08	17.52	18.02
	12H	9.63	10.03	10.14	10.53	11.10	16.72	17.12	17.24	17.62	18.19
12H	4H	6.64	7.19	7.13	7.67	8.15	16.36	16.90	16.84	17.39	17.86
	6H	8.35	8.80	8.87	9.32	9.81	16.44	16.90	16.97	17.41	17.91
	8H	9.36	9.76	9.87	10.25	10.83	16.58	16.98	17.10	17.48	18.05