

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: P1060626

Luminaire Tested: S124RDR-H1020D830-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1060626  
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-H1020D830-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: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

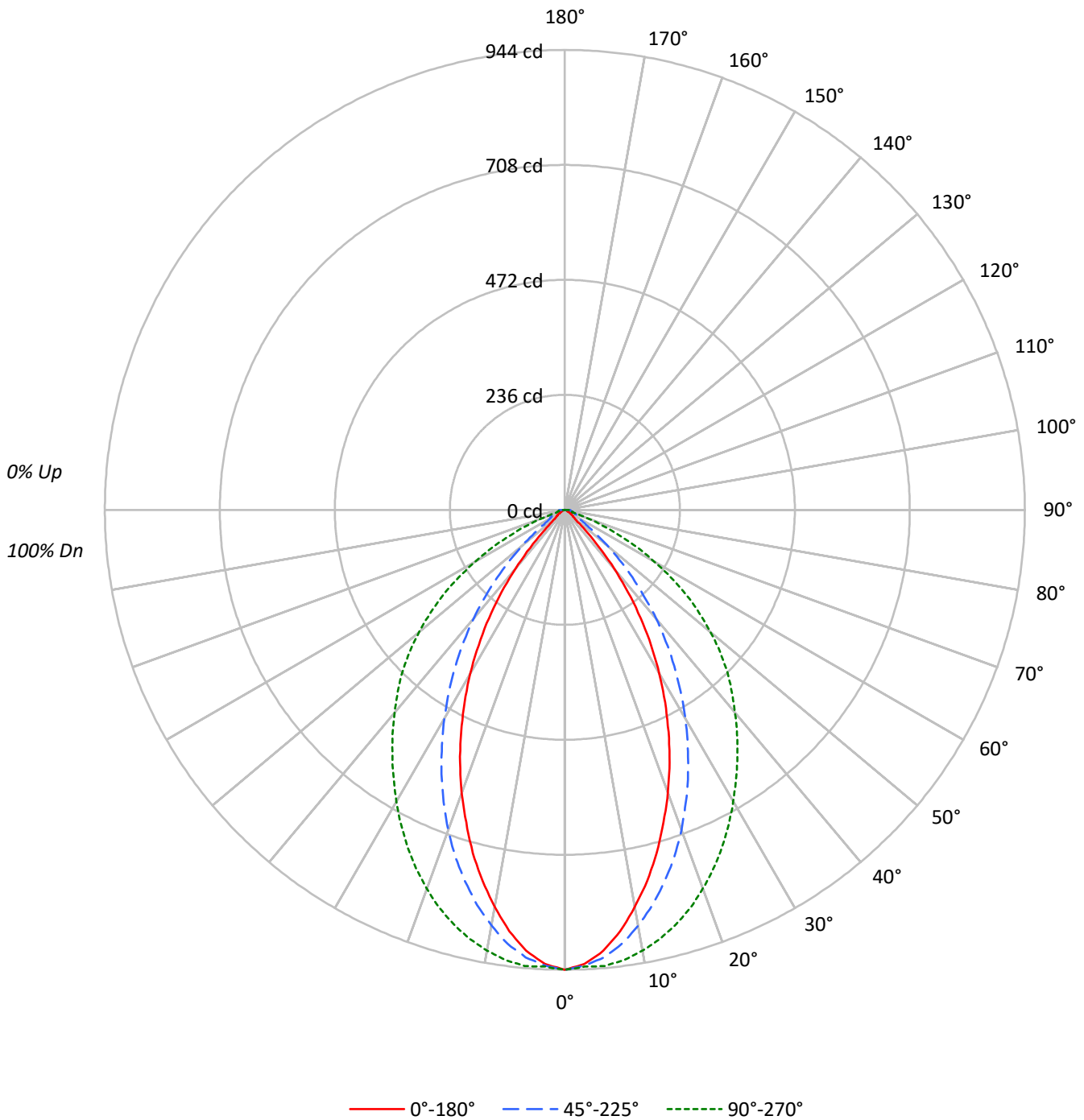
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1189.9 lumens  
Efficiency: N/A  
Efficacy: 38.1 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.97  
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°	8130	8130	8130
5°	7854	7969	8123
10°	7237	7577	8032
15°	6500	7044	7853
20°	5666	6407	7585
25°	4780	5686	7254
30°	3856	4914	6875
35°	2854	4112	6488
40°	1768	3276	6104
45°	701	2388	5748
50°	312	1499	5225
55°	249	782	4574
60°	172	592	3644
65°	112	587	2506
70°	111	531	1171
75°	146	516	516
80°	218	605	605
85°	435	1205	879

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 5748 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.6	7.3
10°-20°	223.5	18.8
20°-30°	282.1	23.7
30°-40°	258.8	21.8
40°-50°	176.3	14.8
50°-60°	96.0	8.1
60°-70°	41.6	3.5
70°-80°	15.1	1.3
80°-90°	9.8	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°	592.2	49.8
0°-40°	851.1	71.5
0°-60°	1123.4	94.4
0°-90°	1189.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1189.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	909	921	922	932	940	84
15°	729	755	790	847	881	203
25°	503	538	598	694	764	230
35°	272	311	391	515	617	168
45°	58	96	196	348	472	54
55°	17	18	52	192	305	15
65°	6	8	29	60	123	6
75°	4	14	16	16	16	5
85°	4	10	12	12	9	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	944.1	944.1	944.1	944.1	944.1
2.5°	933.0	944.1	936.3	938.6	938.6
5°	908.6	920.8	921.9	931.9	939.7
7.5°	872.1	889.8	898.7	918.6	931.9
10°	827.7	848.8	866.5	900.9	918.6
12.5°	780.1	804.5	831.1	876.5	902.0
15°	729.1	754.6	790.1	846.6	880.9
17.5°	672.6	703.6	746.9	814.4	856.6
20°	618.3	649.3	699.2	775.7	827.7
22.5°	561.8	593.9	649.3	734.7	796.7
25°	503.1	538.5	598.4	693.7	763.5
27.5°	445.5	483.1	546.3	650.4	728.0
30°	387.8	425.5	494.2	606.1	691.4
32.5°	329.1	367.9	442.1	559.6	653.8
35°	271.5	311.4	391.2	515.3	617.2
37.5°	212.8	254.9	340.2	472.0	580.6
40°	157.3	199.5	291.4	428.8	543.0
42.5°	105.3	147.4	241.6	386.7	507.5
45°	57.6	96.4	196.1	347.9	472.0
47.5°	31.0	53.2	151.8	310.3	432.2
50°	23.3	28.8	111.9	270.4	390.0
52.5°	19.9	22.2	77.6	228.3	347.9
55°	16.6	17.7	52.1	191.7	304.7
57.5°	13.3	14.4	38.8	155.1	258.2
60°	10.0	12.2	34.4	119.7	211.6
62.5°	7.8	10.0	32.1	87.5	167.3
65°	5.5	7.8	28.8	59.8	123.0
67.5°	5.5	8.9	24.4	38.8	83.1
70°	4.4	12.2	21.1	25.5	46.5
72.5°	4.4	13.3	17.7	17.7	17.7
75°	4.4	14.4	15.5	15.5	15.5
77.5°	4.4	13.3	14.4	13.3	13.3
80°	4.4	12.2	12.2	12.2	12.2
82.5°	4.4	11.1	12.2	12.2	10.0
85°	4.4	10.0	12.2	12.2	8.9
87.5°	3.3	10.0	11.1	11.1	6.6
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	0.00	0.00	0.00	0.22	15.69	16.97	16.05	17.28	17.59
	3H	0.00	0.87	0.12	1.20	1.57	16.06	17.20	16.44	17.53	17.89
	4H	0.96	2.01	1.36	2.36	2.74	16.04	17.09	16.45	17.45	17.83
	6H	2.13	3.10	2.55	3.47	3.87	16.03	17.00	16.45	17.37	17.76
	8H	2.72	3.64	3.15	4.03	4.43	16.03	16.95	16.46	17.34	17.74
	12H	3.39	4.26	3.82	4.65	5.08	16.04	16.92	16.48	17.30	17.73
4H	2H	1.93	2.98	2.33	3.33	3.72	15.50	16.55	15.90	16.90	17.29
	3H	3.52	4.38	3.93	4.78	5.18	15.92	16.78	16.33	17.18	17.59
	4H	4.81	5.58	5.24	6.00	6.44	15.92	16.68	16.35	17.10	17.55
	6H	5.94	6.60	6.40	7.04	7.51	15.96	16.62	16.42	17.07	17.53
	8H	6.44	7.06	6.91	7.51	7.98	15.98	16.60	16.46	17.05	17.52
	12H	6.99	7.54	7.48	8.02	8.50	16.05	16.60	16.54	17.08	17.55
8H	4H	5.89	6.51	6.36	6.96	7.43	15.83	16.44	16.30	16.89	17.36
	6H	7.44	7.94	7.94	8.44	8.92	15.91	16.41	16.41	16.91	17.39
	8H	8.25	8.70	8.77	9.22	9.71	15.99	16.44	16.51	16.96	17.45
	12H	9.08	9.48	9.59	9.98	10.55	16.16	16.56	16.68	17.06	17.63
12H	4H	6.08	6.63	6.57	7.11	7.59	15.79	16.34	16.28	16.82	17.29
	6H	7.79	8.25	8.32	8.77	9.26	15.88	16.33	16.40	16.85	17.34
	8H	8.81	9.21	9.32	9.70	10.28	16.02	16.42	16.53	16.91	17.49