

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: P1056196

Luminaire Tested: S124R3DR-H795D830-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056196  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-H795D830-X4F0-XX-UDD-FLL-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

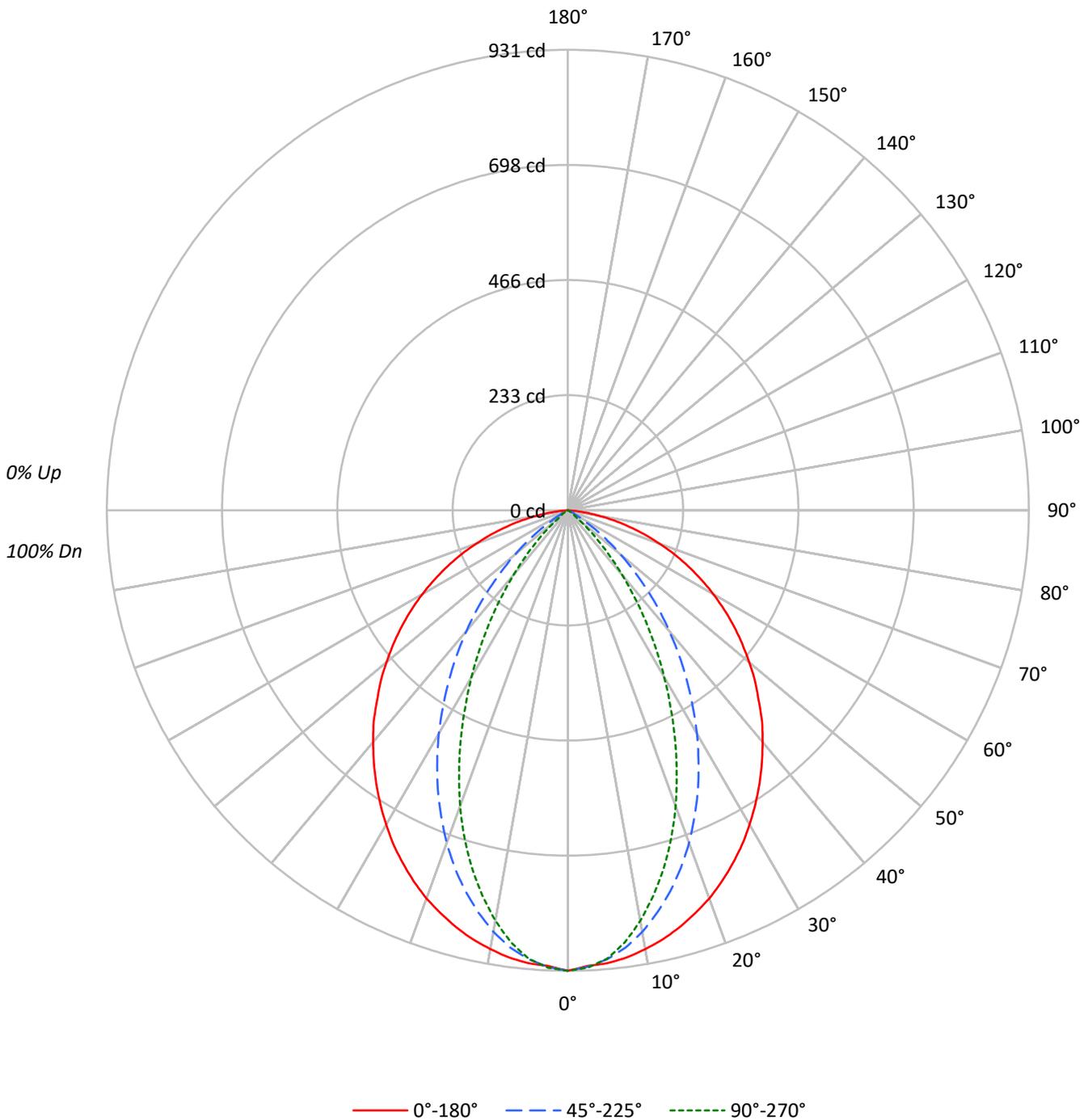
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1301.2 lumens  
Efficiency: N/A  
Efficacy: 54.7 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37

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

	0°	45°	90°
0°	8231	8231	8231
5°	8157	8084	8076
10°	8088	7768	7563
15°	7987	7302	6850
20°	7857	6733	5986
25°	7684	6064	4995
30°	7491	5321	3969
35°	7280	4512	2955
40°	7058	3676	1970
45°	6813	2807	1084
50°	6579	1920	301
55°	6317	1040	197
60°	6003	324	113
65°	5613	209	56
70°	5072	96	23
75°	4366	31	0
80°	3299	0	0
85°	1390	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6813 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.9	6.6
10°-20°	225.5	17.3
20°-30°	291.4	22.4
30°-40°	278.5	21.4
40°-50°	208.3	16.0
50°-60°	123.9	9.5
60°-70°	62.9	4.8
70°-80°	21.9	1.7
80°-90°	3.0	0.2
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°	602.7	46.3
0°-40°	881.2	67.7
0°-60°	1213.4	93.3
0°-90°	1301.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1301.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	931	931	931	931	931	
5°	919	926	911	906	910	87
15°	873	854	798	760	748	246
25°	788	733	622	539	512	363
35°	674	581	418	311	274	422
45°	545	418	224	120	87	421
55°	410	255	68	16	13	366
65°	268	103	10	4	3	265
75°	128	14	1	1	0	136
85°	14	0	0	0	0	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	931.0	931.0	931.0	931.0	931.0
2.5°	921.9	932.8	923.7	924.6	925.5
5°	919.1	926.4	910.9	906.3	910.0
7.5°	911.8	914.6	891.7	879.9	880.8
10°	900.9	898.1	865.3	845.2	842.4
12.5°	888.1	879.0	833.3	804.1	797.7
15°	872.6	854.3	797.7	760.3	748.4
17.5°	854.3	827.8	758.5	709.2	694.6
20°	835.1	798.6	715.6	654.4	636.2
22.5°	812.3	765.8	669.0	596.9	574.1
25°	787.7	732.9	621.6	539.4	512.0
27.5°	762.1	697.3	571.4	481.0	449.1
30°	733.8	659.9	521.2	421.7	388.8
32.5°	704.6	621.6	469.1	366.9	330.4
35°	674.5	581.4	418.0	311.2	273.8
37.5°	643.5	541.2	368.7	258.3	220.0
40°	611.5	500.2	318.5	208.1	170.7
42.5°	580.5	459.1	271.1	160.6	126.0
45°	544.9	418.0	224.5	119.6	86.7
47.5°	513.0	377.9	179.8	81.2	51.1
50°	478.3	335.0	139.6	47.5	21.9
52.5°	443.6	294.8	102.2	21.0	16.4
55°	409.8	254.7	67.5	15.5	12.8
57.5°	374.2	214.5	36.5	11.9	9.1
60°	339.5	175.2	18.3	9.1	6.4
62.5°	303.9	137.8	14.6	5.5	3.7
65°	268.3	103.1	10.0	3.7	2.7
67.5°	232.7	70.3	6.4	1.8	0.9
70°	196.2	42.9	3.7	0.9	0.9
72.5°	161.6	21.9	1.8	0.9	0.9
75°	127.8	13.7	0.9	0.9	0.0
77.5°	94.9	7.3	0.9	0.9	0.0
80°	64.8	2.7	0.0	0.0	0.0
82.5°	37.4	0.9	0.0	0.0	0.0
85°	13.7	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	17.78	19.11	18.14	19.42	19.74	0.00	0.00	0.00	0.00	0.00
	3H	19.32	20.50	19.70	20.83	21.19	0.00	0.00	0.00	0.00	0.00
	4H	19.92	21.01	20.32	21.36	21.74	0.00	0.00	0.00	0.00	0.00
	6H	20.33	21.34	20.75	21.71	22.10	0.00	0.00	0.00	0.00	0.00
	8H	20.43	21.38	20.86	21.77	22.18	0.00	0.00	0.00	0.00	0.00
	12H	20.45	21.36	20.88	21.74	22.17	0.00	0.00	0.00	0.00	0.00
4H	2H	17.56	18.65	17.96	19.00	19.39	0.00	0.00	0.00	0.00	0.00
	3H	19.12	20.01	19.53	20.42	20.82	0.00	0.00	0.00	0.00	0.00
	4H	19.70	20.50	20.14	20.92	21.36	0.00	0.00	0.00	0.00	0.00
	6H	20.16	20.85	20.63	21.30	21.76	0.00	0.00	0.00	0.00	0.00
	8H	20.28	20.92	20.75	21.37	21.84	0.00	0.00	0.00	0.00	0.00
	12H	20.32	20.89	20.81	21.37	21.85	0.00	0.00	0.00	0.00	0.00
8H	4H	19.57	20.21	20.04	20.66	21.13	0.00	0.00	0.00	0.16	0.63
	6H	20.01	20.53	20.51	21.03	21.51	0.00	0.00	0.00	0.00	0.48
	8H	20.12	20.59	20.65	21.11	21.60	0.00	0.00	0.00	0.00	0.40
	12H	20.17	20.59	20.69	21.08	21.65	0.00	0.00	0.00	0.00	0.36
12H	4H	19.52	20.09	20.01	20.57	21.04	0.00	0.05	0.00	0.53	1.01
	6H	19.95	20.41	20.47	20.93	21.42	0.00	0.00	0.00	0.36	0.85
	8H	20.08	20.49	20.60	20.99	21.56	0.00	0.00	0.00	0.24	0.81