

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: P1056100

Luminaire Tested: S124R3DR-H1020D927-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056100  
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-H1020D927-X4F0-XX-UDD-FLL-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

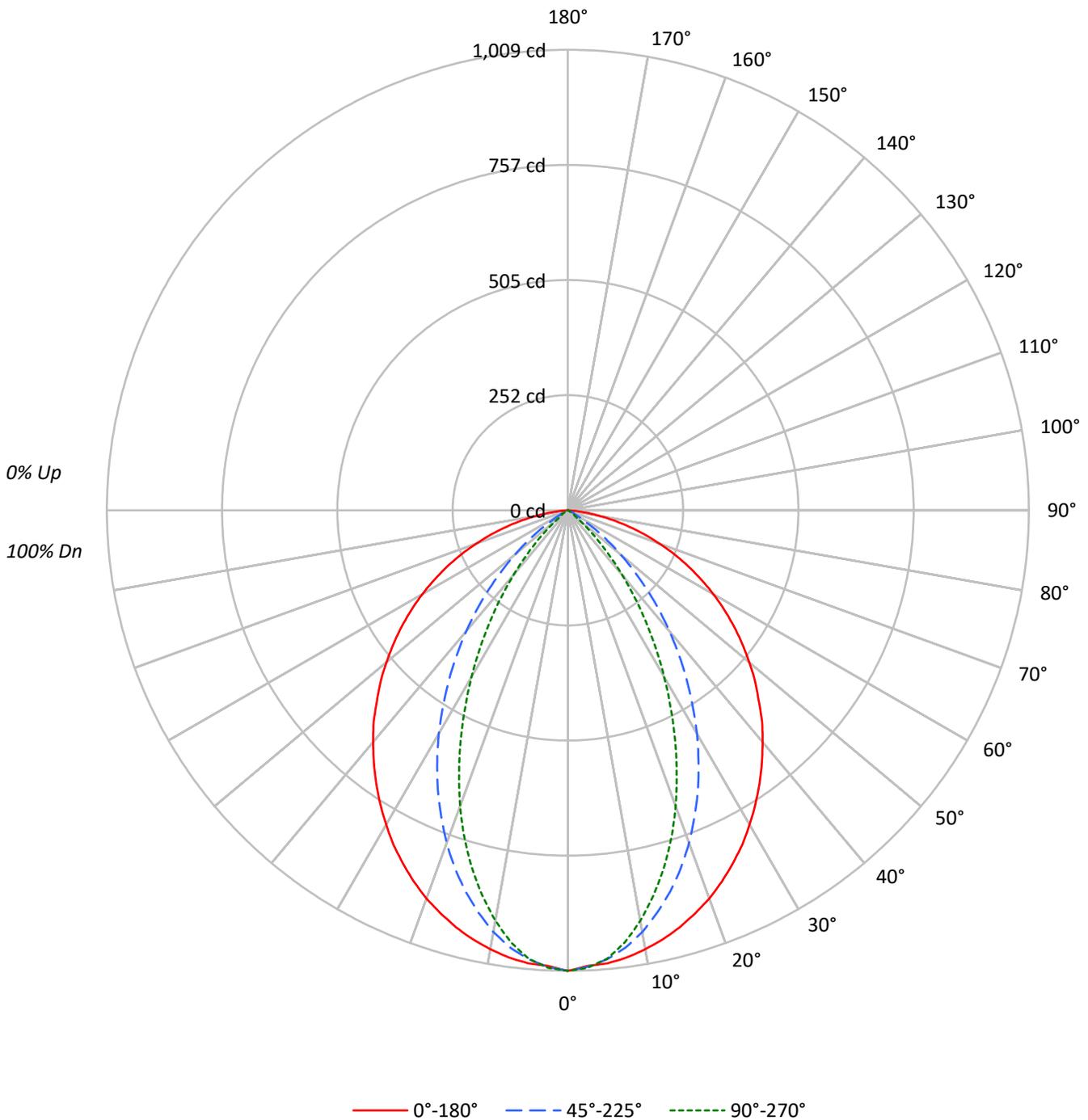
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1410.4 lumens  
Efficiency: N/A  
Efficacy: 45.6 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): 30.9  
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°	8922	8922	8922
5°	8841	8762	8754
10°	8767	8420	8198
15°	8657	7915	7425
20°	8517	7297	6488
25°	8329	6572	5414
30°	8120	5767	4302
35°	7891	4890	3203
40°	7650	3985	2135
45°	7385	3043	1175
50°	7130	2082	326
55°	6847	1128	214
60°	6507	350	122
65°	6086	228	63
70°	5498	103	26
75°	4731	34	0
80°	3574	0	0
85°	1501	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7385 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.1	6.6
10°-20°	244.4	17.3
20°-30°	315.8	22.4
30°-40°	301.8	21.4
40°-50°	225.7	16.0
50°-60°	134.3	9.5
60°-70°	68.2	4.8
70°-80°	23.7	1.7
80°-90°	3.2	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°	653.3	46.3
0°-40°	955.1	67.7
0°-60°	1315.2	93.3
0°-90°	1410.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1410.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1009	1009	1009	1009	1009	
5°	996	1004	987	982	986	94
15°	946	926	865	824	811	266
25°	854	794	674	585	555	393
35°	731	630	453	337	297	457
45°	591	453	243	130	94	457
55°	444	276	73	17	14	397
65°	291	112	11	4	3	288
75°	138	15	1	1	0	147
85°	15	0	0	0	0	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1009.1	1009.1	1009.1	1009.1	1009.1
2.5°	999.2	1011.1	1001.2	1002.2	1003.2
5°	996.2	1004.2	987.3	982.4	986.3
7.5°	988.3	991.3	966.6	953.7	954.7
10°	976.5	973.5	937.9	916.1	913.1
12.5°	962.6	952.7	903.2	871.6	864.7
15°	945.8	926.0	864.7	824.1	811.2
17.5°	926.0	897.3	822.1	768.7	752.9
20°	905.2	865.6	775.6	709.3	689.6
22.5°	880.5	830.0	725.2	647.0	622.3
25°	853.8	794.4	673.7	584.7	555.0
27.5°	826.1	755.8	619.3	521.4	486.7
30°	795.4	715.3	564.9	457.1	421.4
32.5°	763.7	673.7	508.5	397.7	358.1
35°	731.1	630.2	453.1	337.4	296.8
37.5°	697.5	586.7	399.7	280.0	238.4
40°	662.8	542.1	345.3	225.6	185.0
42.5°	629.2	497.6	293.8	174.1	136.5
45°	590.6	453.1	243.4	129.6	94.0
47.5°	556.0	409.6	194.9	88.0	55.4
50°	518.4	363.1	151.4	51.4	23.7
52.5°	480.8	319.5	110.8	22.8	17.8
55°	444.2	276.0	73.2	16.8	13.9
57.5°	405.6	232.5	39.6	12.9	9.9
60°	368.0	189.9	19.8	9.9	6.9
62.5°	329.4	149.4	15.8	5.9	4.0
65°	290.9	111.8	10.9	4.0	3.0
67.5°	252.3	76.2	6.9	2.0	1.0
70°	212.7	46.5	4.0	1.0	1.0
72.5°	175.1	23.7	2.0	1.0	1.0
75°	138.5	14.8	1.0	1.0	0.0
77.5°	102.9	7.9	1.0	1.0	0.0
80°	70.2	3.0	0.0	0.0	0.0
82.5°	40.6	1.0	0.0	0.0	0.0
85°	14.8	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	18.06	19.39	18.42	19.70	20.02	0.00	0.00	0.00	0.00	0.00
	3H	19.60	20.78	19.98	21.11	21.47	0.00	0.00	0.00	0.00	0.00
	4H	20.19	21.29	20.60	21.64	22.02	0.00	0.00	0.00	0.00	0.00
	6H	20.61	21.62	21.03	21.99	22.38	0.00	0.00	0.00	0.00	0.00
	8H	20.71	21.66	21.14	22.05	22.46	0.00	0.00	0.00	0.00	0.00
	12H	20.73	21.64	21.16	22.02	22.45	0.00	0.00	0.00	0.00	0.00
4H	2H	17.84	18.93	18.24	19.28	19.67	0.00	0.00	0.00	0.00	0.00
	3H	19.40	20.29	19.81	20.70	21.10	0.00	0.00	0.00	0.00	0.00
	4H	19.98	20.78	20.42	21.20	21.64	0.00	0.00	0.00	0.00	0.00
	6H	20.44	21.13	20.91	21.58	22.04	0.00	0.00	0.00	0.00	0.00
	8H	20.56	21.20	21.03	21.65	22.12	0.00	0.00	0.00	0.00	0.00
	12H	20.60	21.17	21.09	21.65	22.13	0.00	0.00	0.00	0.00	0.00
8H	4H	19.85	20.49	20.32	20.94	21.41	0.00	0.00	0.00	0.45	0.92
	6H	20.29	20.81	20.79	21.31	21.79	0.00	0.00	0.00	0.29	0.77
	8H	20.40	20.87	20.93	21.39	21.88	0.00	0.00	0.00	0.20	0.69
	12H	20.45	20.87	20.97	21.36	21.93	0.00	0.00	0.00	0.08	0.65
12H	4H	19.80	20.37	20.29	20.85	21.32	0.00	0.34	0.26	0.82	1.30
	6H	20.23	20.69	20.75	21.21	21.70	0.00	0.14	0.19	0.65	1.14
	8H	20.36	20.77	20.88	21.27	21.84	0.00	0.04	0.14	0.53	1.10