

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: P1055968

Luminaire Tested: S124R3DR-S1020D930-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055968  
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-S1020D930-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

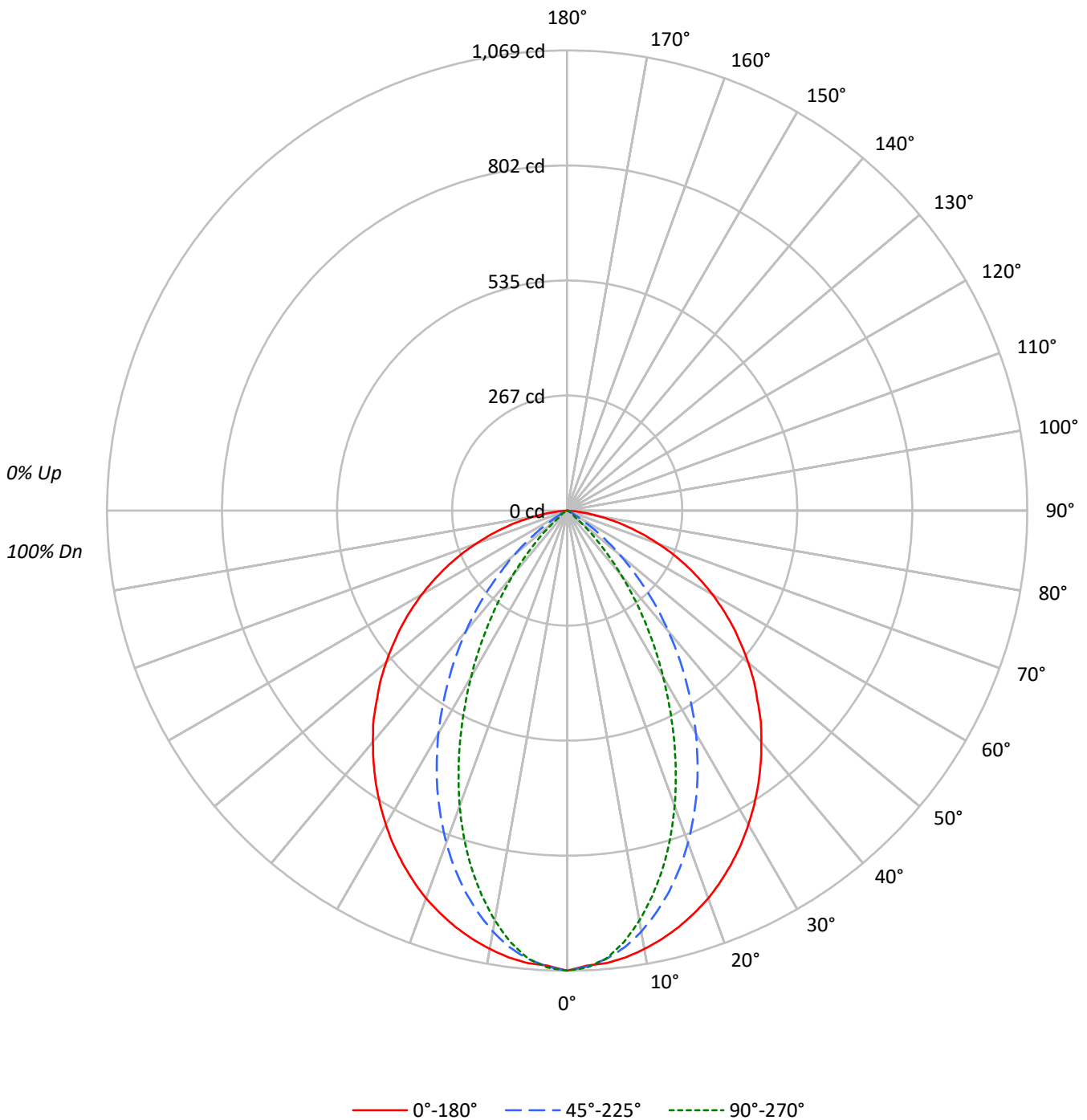
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1493.6 lumens  
Efficiency: N/A  
Efficacy: 43.0 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): 34.7  
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°	9449	9449	9449
5°	9363	9280	9271
10°	9284	8917	8682
15°	9168	8382	7864
20°	9020	7728	6871
25°	8821	6960	5734
30°	8600	6107	4556
35°	8357	5180	3392
40°	8102	4221	2261
45°	7821	3222	1244
50°	7551	2205	345
55°	7251	1195	227
60°	6891	371	129
65°	6444	241	65
70°	5824	109	26
75°	5011	34	0
80°	3788	0	0
85°	1593	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7821 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.6	6.6
10°-20°	258.8	17.3
20°-30°	334.5	22.4
30°-40°	319.7	21.4
40°-50°	239.1	16.0
50°-60°	142.3	9.5
60°-70°	72.2	4.8
70°-80°	25.1	1.7
80°-90°	3.4	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°	691.9	46.3
0°-40°	1011.5	67.7
0°-60°	1392.9	93.3
0°-90°	1493.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1493.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1069	1069	1069	1069	1069	
5°	1055	1063	1046	1040	1045	100
15°	1002	981	916	873	859	282
25°	904	841	714	619	588	416
35°	774	667	480	357	314	484
45°	626	480	258	137	100	484
55°	470	292	78	18	15	420
65°	308	118	12	4	3	305
75°	147	16	1	1	0	156
85°	16	0	0	0	0	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1068.7	1068.7	1068.7	1068.7	1068.7
2.5°	1058.2	1070.8	1060.3	1061.3	1062.4
5°	1055.0	1063.4	1045.6	1040.4	1044.6
7.5°	1046.7	1049.8	1023.6	1010.0	1011.0
10°	1034.1	1030.9	993.2	970.2	967.0
12.5°	1019.4	1008.9	956.6	923.0	915.7
15°	1001.6	980.7	915.7	872.7	859.1
17.5°	980.7	950.3	870.6	814.1	797.3
20°	958.7	916.7	821.4	751.2	730.3
22.5°	932.5	879.0	768.0	685.2	659.0
25°	904.2	841.3	713.5	619.2	587.8
27.5°	874.8	800.5	655.9	552.1	515.5
30°	842.4	757.5	598.2	484.0	446.3
32.5°	808.8	713.5	538.5	421.2	379.3
35°	774.3	667.4	479.9	357.3	314.3
37.5°	738.6	621.3	423.3	296.5	252.5
40°	702.0	574.1	365.7	238.9	195.9
42.5°	666.3	527.0	311.2	184.4	144.6
45°	625.5	479.9	257.7	137.3	99.5
47.5°	588.8	433.8	206.4	93.2	58.7
50°	549.0	384.5	160.3	54.5	25.1
52.5°	509.2	338.4	117.3	24.1	18.9
55°	470.4	292.3	77.5	17.8	14.7
57.5°	429.6	246.2	41.9	13.6	10.5
60°	389.7	201.2	21.0	10.5	7.3
62.5°	348.9	158.2	16.8	6.3	4.2
65°	308.0	118.4	11.5	4.2	3.1
67.5°	267.2	80.7	7.3	2.1	1.0
70°	225.3	49.2	4.2	1.0	1.0
72.5°	185.4	25.1	2.1	1.0	1.0
75°	146.7	15.7	1.0	1.0	0.0
77.5°	109.0	8.4	1.0	1.0	0.0
80°	74.4	3.1	0.0	0.0	0.0
82.5°	43.0	1.0	0.0	0.0	0.0
85°	15.7	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	18.26	19.59	18.62	19.90	20.21	0.00	0.00	0.00	0.00	0.00
	3H	19.80	20.98	20.18	21.31	21.67	0.00	0.00	0.00	0.00	0.00
	4H	20.39	21.49	20.80	21.84	22.22	0.00	0.00	0.00	0.00	0.00
	6H	20.81	21.82	21.23	22.19	22.58	0.00	0.00	0.00	0.00	0.00
	8H	20.91	21.86	21.34	22.25	22.66	0.00	0.00	0.00	0.00	0.00
	12H	20.93	21.84	21.36	22.22	22.65	0.00	0.00	0.00	0.00	0.00
4H	2H	18.04	19.13	18.44	19.48	19.87	0.00	0.00	0.00	0.00	0.00
	3H	19.60	20.49	20.01	20.90	21.30	0.00	0.00	0.00	0.00	0.00
	4H	20.18	20.98	20.62	21.40	21.84	0.00	0.00	0.00	0.00	0.00
	6H	20.64	21.33	21.11	21.78	22.24	0.00	0.00	0.00	0.00	0.00
	8H	20.76	21.40	21.23	21.85	22.32	0.00	0.00	0.00	0.00	0.00
	12H	20.80	21.37	21.29	21.85	22.33	0.00	0.00	0.00	0.00	0.00
8H	4H	20.05	20.69	20.52	21.13	21.61	0.00	0.18	0.01	0.63	1.10
	6H	20.49	21.01	20.99	21.51	21.99	0.00	0.00	0.00	0.47	0.95
	8H	20.60	21.07	21.13	21.59	22.08	0.00	0.00	0.00	0.37	0.86
	12H	20.65	21.07	21.17	21.56	22.13	0.00	0.00	0.00	0.25	0.82
12H	4H	20.00	20.57	20.49	21.05	21.52	0.00	0.52	0.44	1.00	1.48
	6H	20.43	20.89	20.95	21.41	21.90	0.00	0.31	0.37	0.83	1.32
	8H	20.56	20.97	21.08	21.47	22.04	0.00	0.22	0.32	0.71	1.28