

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: P1056127

Luminaire Tested: S124R3DR-H1195D927-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056127  
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-H1195D927-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: -

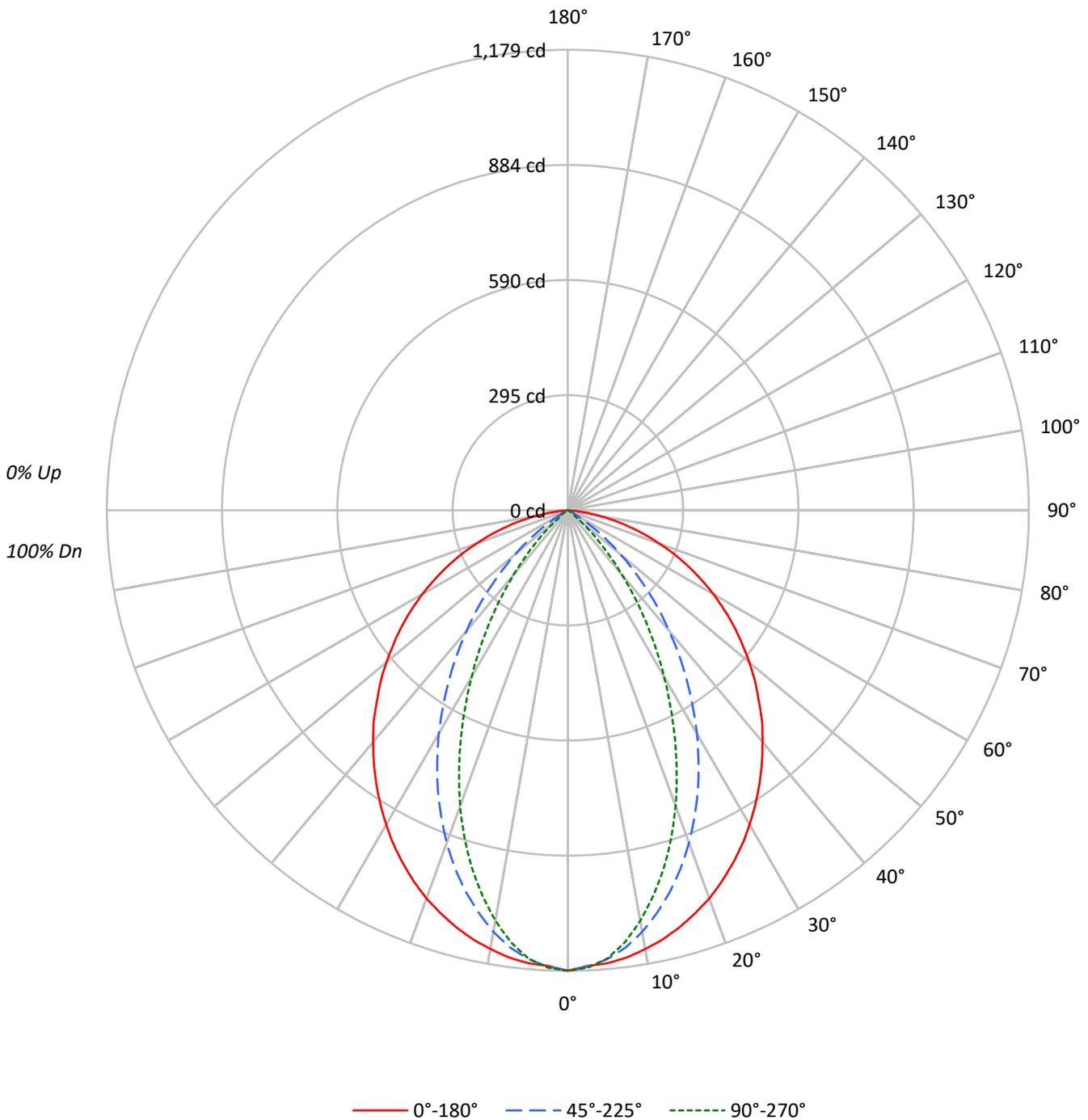
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1647.6 lumens  
Efficiency: N/A  
Efficacy: 45.0 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): 36.6  
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	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					100			
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71					71			
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64					64			
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43					43			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40					40			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37					37			

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

	0°	45°	90°
0°	10422	10422	10422
5°	10329	10237	10226
10°	10241	9836	9577
15°	10113	9246	8675
20°	9950	8525	7579
25°	9730	7677	6324
30°	9486	6737	5026
35°	9219	5713	3742
40°	8937	4655	2494
45°	8627	3555	1373
50°	8330	2432	381
55°	7999	1318	250
60°	7602	408	143
65°	7109	266	73
70°	6424	119	31
75°	5527	41	0
80°	4180	0	0
85°	1755	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8627 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.7	6.6
10°-20°	285.5	17.3
20°-30°	368.9	22.4
30°-40°	352.6	21.4
40°-50°	263.7	16.0
50°-60°	156.9	9.5
60°-70°	79.7	4.8
70°-80°	27.7	1.7
80°-90°	3.8	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°	763.2	46.3
0°-40°	1115.8	67.7
0°-60°	1536.4	93.3
0°-90°	1647.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1647.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1179	1179	1179	1179	1179	
5°	1164	1173	1153	1148	1152	110
15°	1105	1082	1010	963	948	311
25°	997	928	787	683	648	459
35°	854	736	529	394	347	534
45°	690	529	284	151	110	533
55°	519	322	86	20	16	463
65°	340	131	13	5	4	336
75°	162	17	1	1	0	172
85°	17	0	0	0	0	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1178.8	<i>1178.8</i>	1178.8	1178.8	1178.8
2.5°	<i>1167.3</i>	<i>1181.1</i>	<i>1169.6</i>	<i>1170.7</i>	<i>1171.9</i>
5°	1163.8	<i>1173.0</i>	1153.4	1147.6	1152.2
7.5°	1154.5	<i>1158.0</i>	1129.1	1114.1	1115.2
10°	1140.7	<i>1137.2</i>	1095.6	1070.2	1066.7
12.5°	1124.5	<i>1112.9</i>	1055.2	1018.2	1010.1
15°	1104.8	<i>1081.7</i>	1010.1	962.7	947.7
17.5°	1081.7	<i>1048.2</i>	960.4	898.0	879.5
20°	1057.5	<i>1011.2</i>	906.1	828.6	805.5
22.5°	1028.6	<i>969.6</i>	847.1	755.8	726.9
25°	997.4	<i>928.0</i>	787.0	683.0	648.3
27.5°	965.0	<i>883.0</i>	723.5	609.1	568.6
30°	929.2	<i>835.6</i>	659.9	533.9	492.3
32.5°	892.2	<i>787.0</i>	594.0	464.6	418.4
35°	854.1	<i>736.2</i>	529.3	394.1	346.7
37.5°	814.8	<i>685.3</i>	466.9	327.1	278.5
40°	774.3	<i>633.3</i>	403.3	263.5	216.1
42.5°	735.0	<i>581.3</i>	343.2	203.4	159.5
45°	690.0	<i>529.3</i>	284.3	151.4	109.8
47.5°	649.5	<i>478.5</i>	227.7	102.9	64.7
50°	605.6	<i>424.1</i>	176.8	60.1	27.7
52.5°	561.7	<i>373.3</i>	129.4	26.6	20.8
55°	518.9	<i>322.4</i>	85.5	19.6	16.2
57.5°	473.8	<i>271.6</i>	46.2	15.0	11.6
60°	429.9	<i>221.9</i>	23.1	11.6	8.1
62.5°	384.8	<i>174.5</i>	18.5	6.9	4.6
65°	339.8	<i>130.6</i>	12.7	4.6	3.5
67.5°	294.7	<i>89.0</i>	8.1	2.3	1.2
70°	248.5	<i>54.3</i>	4.6	1.2	1.2
72.5°	204.6	<i>27.7</i>	2.3	1.2	1.2
75°	161.8	<i>17.3</i>	1.2	1.2	0.0
77.5°	120.2	<i>9.2</i>	1.2	1.2	0.0
80°	82.1	<i>3.5</i>	0.0	0.0	0.0
82.5°	47.4	<i>1.2</i>	0.0	0.0	0.0
85°	17.3	<i>0.0</i>	0.0	0.0	0.0
87.5°	0.0	<i>0.0</i>	0.0	0.0	0.0
90°	0.0	<i>0.0</i>	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	18.60	19.93	18.96	20.24	20.56	0.00	0.00	0.00	0.00	0.00
	3H	20.14	21.32	20.52	21.65	22.01	0.00	0.00	0.00	0.00	0.00
	4H	20.73	21.83	21.14	22.18	22.56	0.00	0.00	0.00	0.00	0.00
	6H	21.15	22.16	21.57	22.53	22.92	0.00	0.00	0.00	0.00	0.00
	8H	21.25	22.20	21.68	22.59	23.00	0.00	0.00	0.00	0.00	0.00
	12H	21.27	22.18	21.70	22.56	22.99	0.00	0.00	0.00	0.00	0.00
4H	2H	18.38	19.47	18.78	19.82	20.21	0.00	0.00	0.00	0.00	0.07
	3H	19.94	20.83	20.35	21.24	21.64	0.00	0.00	0.00	0.00	0.00
	4H	20.52	21.32	20.96	21.74	22.18	0.00	0.00	0.00	0.00	0.00
	6H	20.98	21.67	21.45	22.12	22.58	0.00	0.00	0.00	0.00	0.00
	8H	21.10	21.74	21.57	22.19	22.66	0.00	0.00	0.00	0.00	0.00
	12H	21.14	21.71	21.63	22.19	22.67	0.00	0.00	0.00	0.00	0.00
8H	4H	20.39	21.03	20.86	21.48	21.95	0.00	0.53	0.36	0.98	1.45
	6H	20.83	21.35	21.33	21.85	22.33	0.00	0.33	0.31	0.82	1.30
	8H	20.95	21.41	21.47	21.93	22.42	0.00	0.21	0.26	0.73	1.22
	12H	20.99	21.41	21.51	21.90	22.47	0.00	0.11	0.21	0.61	1.18
12H	4H	20.34	20.91	20.83	21.39	21.86	0.31	0.87	0.79	1.35	1.83
	6H	20.77	21.23	21.29	21.75	22.24	0.20	0.67	0.72	1.18	1.68
	8H	20.90	21.31	21.42	21.81	22.38	0.16	0.57	0.67	1.06	1.63