

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: P1056142

Luminaire Tested: S124R3DR-H350D830-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056142  
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-H350D830-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: -

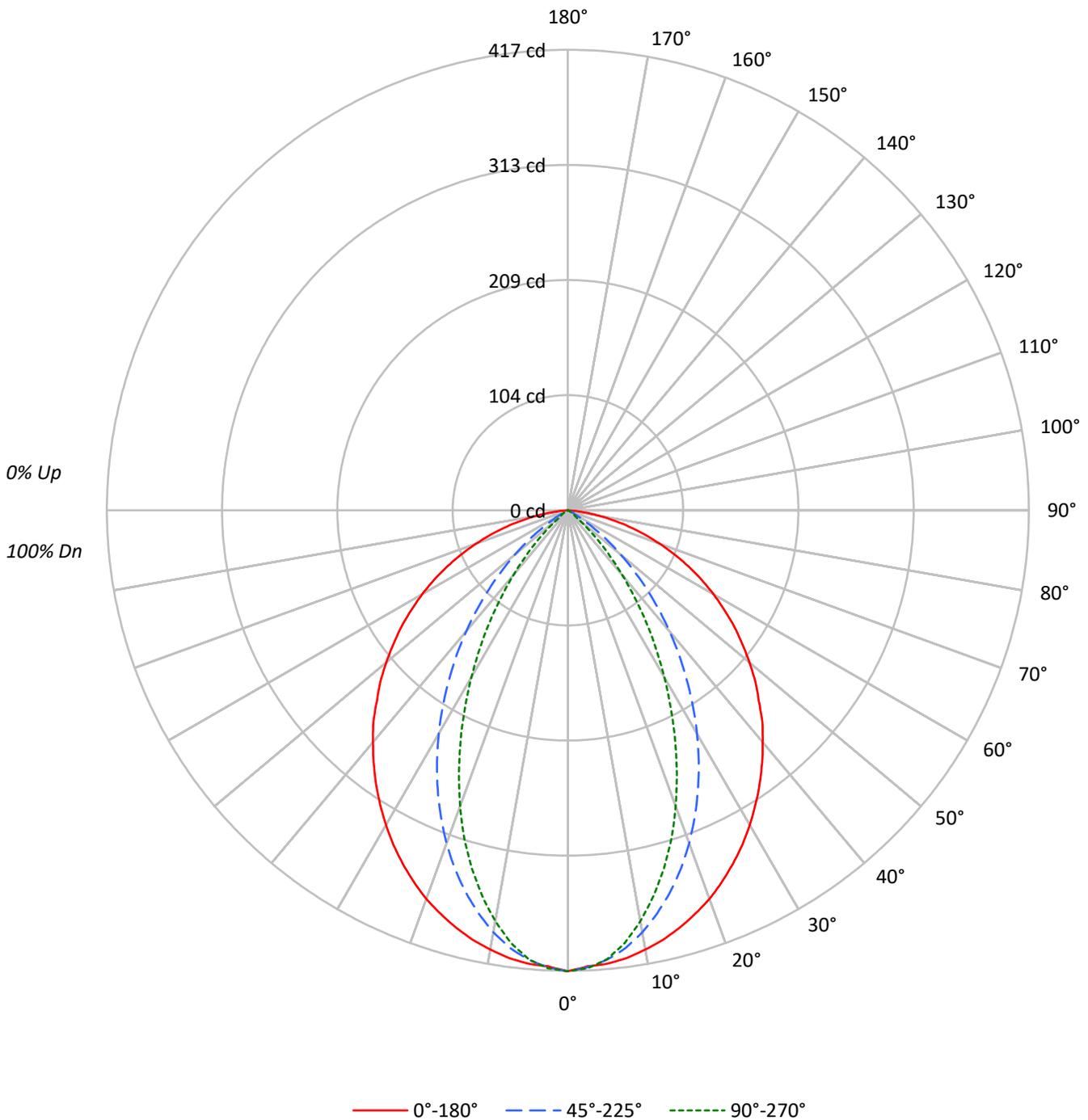
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 583.4 lumens  
Efficiency: N/A  
Efficacy: 49.9 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): 11.7  
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	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°	3690	3690	3690
5°	3657	3625	3621
10°	3626	3483	3391
15°	3581	3274	3072
20°	3524	3018	2683
25°	3446	2719	2240
30°	3359	2386	1779
35°	3264	2023	1325
40°	3165	1648	883
45°	3055	1259	486
50°	2949	861	135
55°	2833	467	88
60°	2691	145	51
65°	2517	94	25
70°	2275	41	10
75°	1957	14	0
80°	1482	0	0
85°	619	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3055 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.5	6.6
10°-20°	101.1	17.3
20°-30°	130.6	22.4
30°-40°	124.9	21.4
40°-50°	93.4	16.0
50°-60°	55.6	9.5
60°-70°	28.2	4.8
70°-80°	9.8	1.7
80°-90°	1.3	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°	270.2	46.3
0°-40°	395.1	67.7
0°-60°	544.1	93.3
0°-90°	583.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	583.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	417	417	417	417	417	
5°	412	415	408	406	408	39
15°	391	383	358	341	336	110
25°	353	329	279	242	230	163
35°	302	261	187	140	123	189
45°	244	187	101	54	39	189
55°	184	114	30	7	6	164
65°	120	46	4	2	1	119
75°	57	6	0	0	0	61
85°	6	0	0	0	0	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	417.4	417.4	417.4	417.4	417.4
2.5°	413.3	418.2	414.2	414.6	415.0
5°	412.1	415.4	408.4	406.4	408.0
7.5°	408.8	410.1	399.8	394.5	394.9
10°	403.9	402.7	388.0	379.0	377.7
12.5°	398.2	394.1	373.6	360.5	357.7
15°	391.2	383.1	357.7	340.9	335.6
17.5°	383.1	371.2	340.1	318.0	311.4
20°	374.5	358.1	320.8	293.4	285.2
22.5°	364.2	343.4	300.0	267.6	257.4
25°	353.2	328.6	278.7	241.9	229.6
27.5°	341.7	312.7	256.2	215.7	201.3
30°	329.0	295.9	233.7	189.1	174.3
32.5°	315.9	278.7	210.4	164.5	148.1
35°	302.4	260.7	187.4	139.6	122.8
37.5°	288.5	242.7	165.3	115.8	98.6
40°	274.2	224.3	142.8	93.3	76.5
42.5°	260.3	205.8	121.5	72.0	56.5
45°	244.3	187.4	100.7	53.6	38.9
47.5°	230.0	169.4	80.6	36.4	22.9
50°	214.4	150.2	62.6	21.3	9.8
52.5°	198.9	132.2	45.8	9.4	7.4
55°	183.8	114.2	30.3	7.0	5.7
57.5°	167.8	96.2	16.4	5.3	4.1
60°	152.2	78.6	8.2	4.1	2.9
62.5°	136.3	61.8	6.5	2.5	1.6
65°	120.3	46.2	4.5	1.6	1.2
67.5°	104.4	31.5	2.9	0.8	0.4
70°	88.0	19.2	1.6	0.4	0.4
72.5°	72.4	9.8	0.8	0.4	0.4
75°	57.3	6.1	0.4	0.4	0.0
77.5°	42.6	3.3	0.4	0.4	0.0
80°	29.1	1.2	0.0	0.0	0.0
82.5°	16.8	0.4	0.0	0.0	0.0
85°	6.1	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	14.99	16.32	15.36	16.63	16.95	0.00	0.00	0.00	0.00	0.00
	3H	16.54	17.71	16.92	18.04	18.41	0.00	0.00	0.00	0.00	0.00
	4H	17.13	18.22	17.53	18.58	18.96	0.00	0.00	0.00	0.00	0.00
	6H	17.55	18.55	17.96	18.92	19.32	0.00	0.00	0.00	0.00	0.00
	8H	17.65	18.60	18.08	18.99	19.39	0.00	0.00	0.00	0.00	0.00
	12H	17.67	18.58	18.10	18.96	19.39	0.00	0.00	0.00	0.00	0.00
4H	2H	14.77	15.87	15.17	16.22	16.60	0.00	0.00	0.00	0.00	0.00
	3H	16.33	17.23	16.75	17.63	18.04	0.00	0.00	0.00	0.00	0.00
	4H	16.92	17.71	17.35	18.13	18.58	0.00	0.00	0.00	0.00	0.00
	6H	17.38	18.06	17.84	18.51	18.98	0.00	0.00	0.00	0.00	0.00
	8H	17.50	18.14	17.97	18.59	19.06	0.00	0.00	0.00	0.00	0.00
	12H	17.54	18.10	18.02	18.59	19.06	0.00	0.00	0.00	0.00	0.00
8H	4H	16.78	17.42	17.25	17.87	18.34	0.00	0.00	0.00	0.00	0.00
	6H	17.22	17.74	17.72	18.24	18.72	0.00	0.00	0.00	0.00	0.00
	8H	17.34	17.81	17.86	18.32	18.82	0.00	0.00	0.00	0.00	0.00
	12H	17.39	17.80	17.90	18.30	18.87	0.00	0.00	0.00	0.00	0.00
12H	4H	16.74	17.30	17.22	17.78	18.26	0.00	0.00	0.00	0.00	0.00
	6H	17.16	17.63	17.68	18.14	18.64	0.00	0.00	0.00	0.00	0.00
	8H	17.30	17.71	17.81	18.20	18.77	0.00	0.00	0.00	0.00	0.00