

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: P1056143

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056143  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)  
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-S  
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

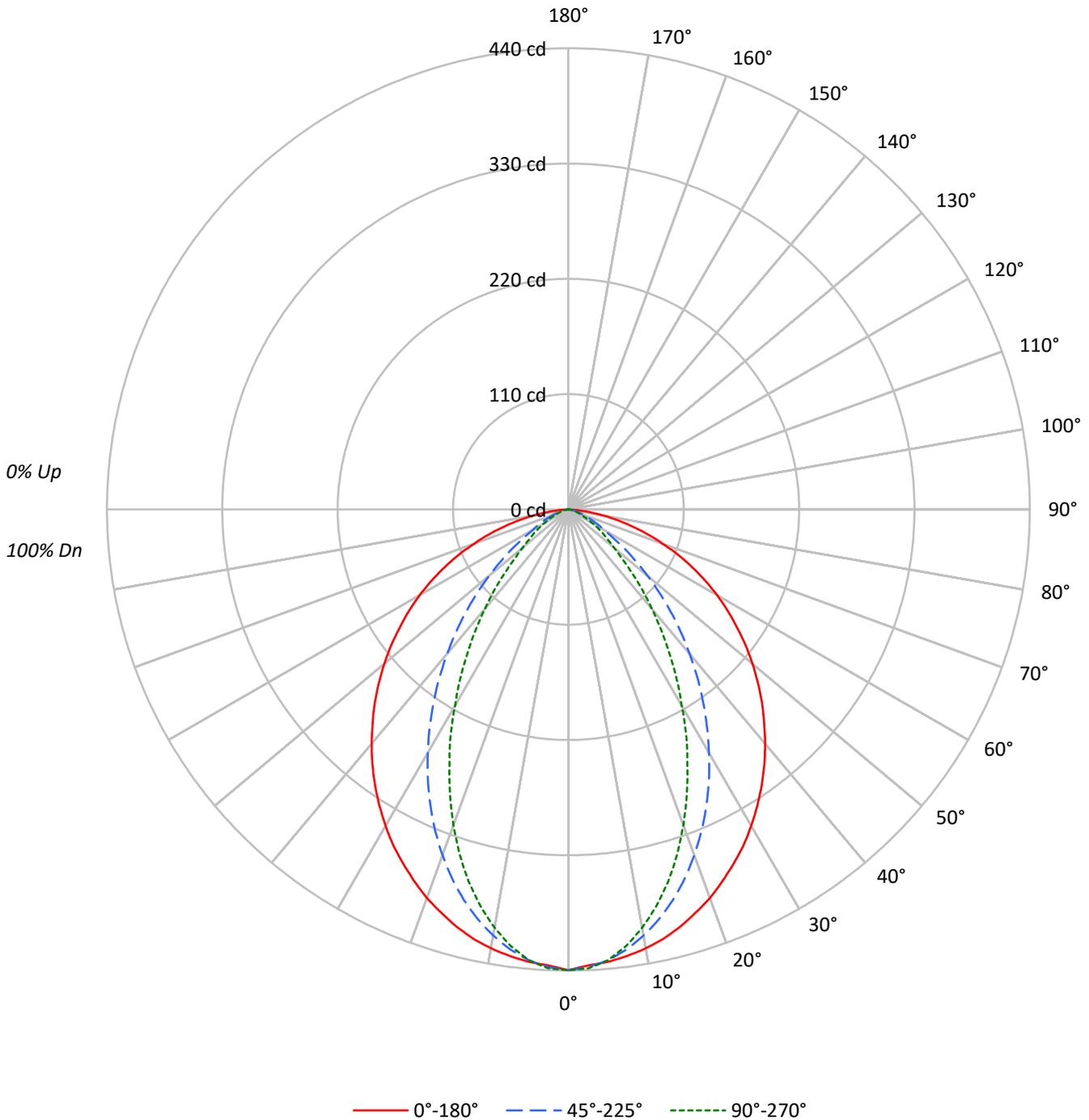
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 710.7 lumens  
Efficiency: N/A  
Efficacy: 60.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03  
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	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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89																												
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78																												
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68																												
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60																												
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54																												
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48																												
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44																												
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40																												
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37																												
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34																												

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

	0°	45°	90°
0°	3886	3886	3886
5°	3846	3832	3832
10°	3817	3707	3638
15°	3772	3529	3364
20°	3712	3303	3015
25°	3637	3038	2619
30°	3560	2737	2206
35°	3468	2417	1815
40°	3368	2074	1431
45°	3265	1724	1069
50°	3153	1356	783
55°	3027	1003	624
60°	2895	695	477
65°	2722	540	351
70°	2466	380	274
75°	2152	266	208
80°	1731	209	188
85°	954	162	162

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3265 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.8	5.7
10°-20°	108.9	15.3
20°-30°	145.3	20.4
30°-40°	146.3	20.6
40°-50°	120.0	16.9
50°-60°	82.0	11.5
60°-70°	45.8	6.4
70°-80°	18.1	2.6
80°-90°	3.4	0.5
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°	295.0	41.5
0°-40°	441.3	62.1
0°-60°	643.3	90.5
0°-90°	710.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	710.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	440	440	440	440	440	
5°	433	438	432	430	432	41
15°	412	408	386	372	368	116
25°	373	354	311	280	268	172
35°	321	287	224	181	168	201
45°	261	213	138	97	86	201
55°	196	138	65	43	40	176
65°	130	66	26	18	17	129
75°	63	17	8	6	6	68
85°	9	2	2	2	2	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	439.5	439.5	439.5	439.5	439.5
2.5°	435.4	440.8	437.1	437.5	438.3
5°	433.4	438.3	431.8	429.7	431.8
7.5°	429.7	433.4	423.6	419.5	420.3
10°	425.2	426.4	412.9	406.0	405.2
12.5°	419.5	417.8	400.2	390.0	387.6
15°	412.1	407.6	385.5	372.0	367.5
17.5°	403.5	395.7	369.1	351.5	345.0
20°	394.5	383.1	351.1	328.6	320.4
22.5°	383.9	369.5	331.9	304.5	295.1
25°	372.8	354.4	311.4	279.9	268.5
27.5°	361.4	338.9	290.2	255.0	243.5
30°	348.7	322.1	268.1	230.0	216.1
32.5°	335.2	304.9	246.0	205.4	192.3
35°	321.3	287.3	223.9	181.3	168.2
37.5°	306.9	269.3	201.8	158.4	145.3
40°	291.8	250.9	179.7	136.7	124.0
42.5°	276.2	232.0	158.4	116.2	104.4
45°	261.1	213.2	137.9	97.0	85.5
47.5°	245.1	194.4	117.9	79.0	69.2
50°	229.2	175.6	98.6	63.4	56.9
52.5°	212.8	156.7	81.0	52.0	47.5
55°	196.4	137.9	65.1	43.4	40.5
57.5°	180.1	119.1	50.3	36.8	33.6
60°	163.7	100.7	39.3	29.9	27.0
62.5°	146.9	82.3	32.3	23.7	21.3
65°	130.1	65.5	25.8	18.4	16.8
67.5°	113.4	49.9	19.6	14.3	13.1
70°	95.4	35.6	14.7	11.0	10.6
72.5°	79.8	24.1	10.6	8.6	8.2
75°	63.0	17.2	7.8	6.5	6.1
77.5°	48.7	11.0	5.7	5.3	4.9
80°	34.0	6.1	4.1	3.7	3.7
82.5°	20.9	3.3	2.9	2.5	2.5
85°	9.4	1.6	1.6	1.6	1.6
87.5°	1.6	0.8	0.8	0.8	0.8
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	15.44	16.85	15.81	17.16	17.48	6.53	7.93	6.89	8.25	8.56
	3H	17.03	18.28	17.41	18.61	18.97	7.12	8.37	7.50	8.70	9.06
	4H	17.62	18.79	18.02	19.14	19.52	7.27	8.44	7.67	8.79	9.17
	6H	18.05	19.13	18.47	19.50	19.89	7.38	8.46	7.79	8.82	9.22
	8H	18.17	19.19	18.60	19.58	19.98	7.40	8.42	7.83	8.81	9.22
	12H	18.21	19.18	18.64	19.57	20.00	7.41	8.38	7.84	8.77	9.20
4H	2H	15.30	16.46	15.70	16.81	17.20	7.11	8.28	7.51	8.63	9.01
	3H	16.94	17.90	17.35	18.30	18.71	7.82	8.78	8.23	9.18	9.58
	4H	17.55	18.41	17.98	18.82	19.27	8.02	8.88	8.46	9.30	9.74
	6H	18.04	18.78	18.50	19.23	19.69	8.19	8.93	8.65	9.38	9.84
	8H	18.18	18.87	18.65	19.32	19.79	8.22	8.92	8.69	9.36	9.83
	12H	18.26	18.87	18.74	19.35	19.82	8.25	8.86	8.73	9.34	9.82
8H	4H	17.44	18.13	17.91	18.58	19.05	8.29	8.99	8.76	9.43	9.90
	6H	17.92	18.49	18.42	18.98	19.46	8.50	9.07	9.00	9.56	10.04
	8H	18.07	18.57	18.59	19.09	19.58	8.56	9.07	9.08	9.58	10.07
	12H	18.16	18.61	18.67	19.10	19.67	8.62	9.07	9.13	9.56	10.13
12H	4H	17.40	18.02	17.89	18.50	18.97	8.32	8.93	8.81	9.42	9.89
	6H	17.87	18.38	18.39	18.89	19.38	8.53	9.04	9.05	9.55	10.04
	8H	18.03	18.48	18.55	18.97	19.54	8.62	9.07	9.14	9.57	10.14