

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: P1056189

Luminaire Tested: S124R3DR-H575D935-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056189  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DR-H575D935-X4F0-XX-UDD-FLL-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

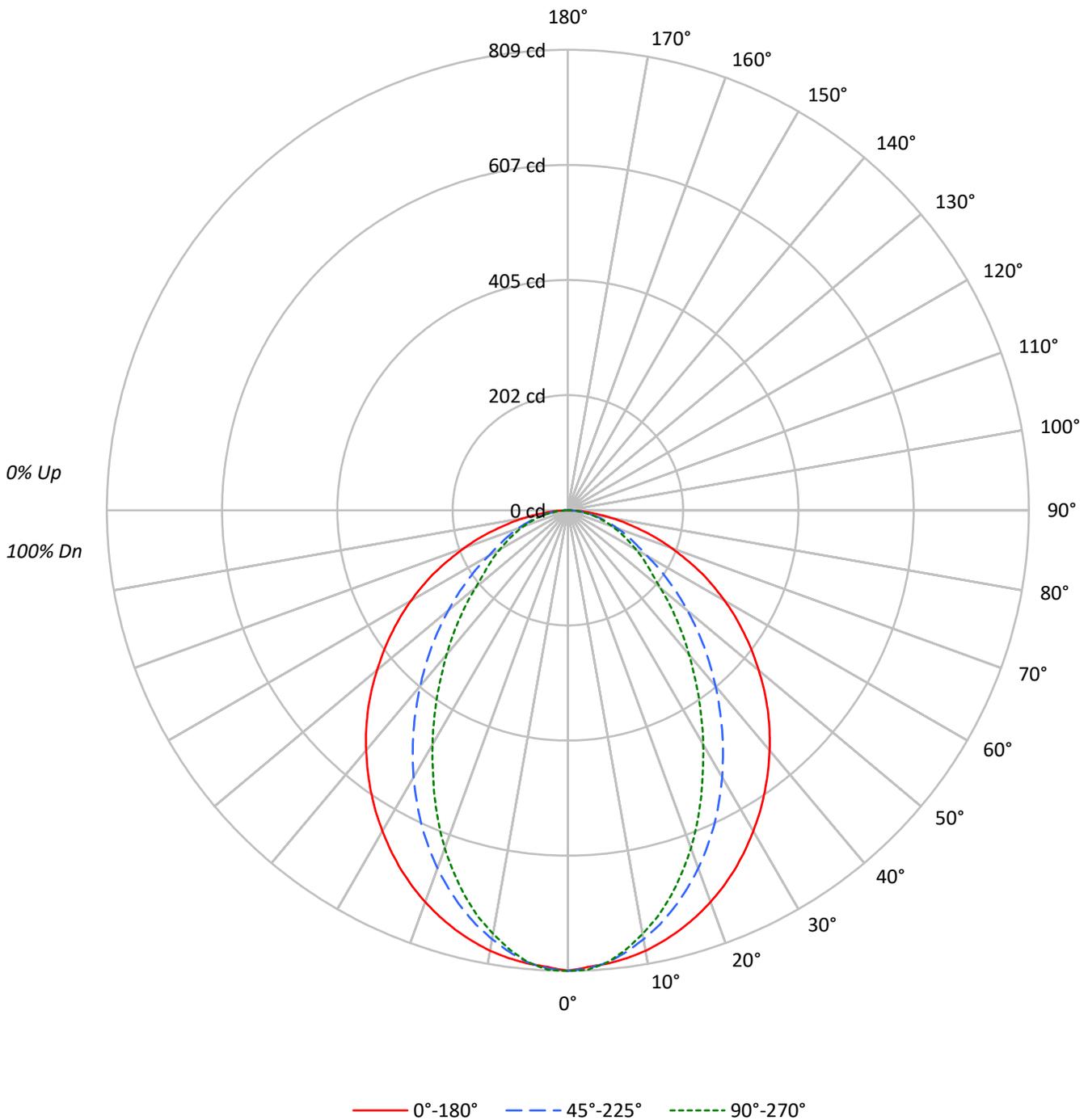
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1611.4 lumens  
Efficiency: N/A  
Efficacy: 93.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.3  
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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73					73			
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63					63			
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55					55			
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49					49			
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43					43			
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39					39			
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35					35			
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32					32			
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29					29			

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

	0°	45°	90°
0°	7154	7154	7154
5°	7096	7081	7075
10°	7055	6868	6783
15°	6980	6610	6408
20°	6890	6296	5944
25°	6778	5935	5402
30°	6643	5525	4850
35°	6503	5096	4318
40°	6356	4651	3820
45°	6201	4221	3357
50°	6011	3767	2898
55°	5827	3313	2634
60°	5621	2842	2442
65°	5368	2577	2278
70°	4987	2386	2153
75°	4516	2197	2033
80°	3941	2032	1909
85°	3023	1877	1755

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6201 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.3	4.7
10°-20°	204.3	12.7
20°-30°	282.9	17.6
30°-40°	303.7	18.8
40°-50°	276.1	17.1
50°-60°	217.5	13.5
60°-70°	148.8	9.2
70°-80°	80.1	5.0
80°-90°	22.7	1.4
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°	562.6	34.9
0°-40°	866.2	53.8
0°-60°	1359.8	84.4
0°-90°	1611.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1611.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	809	809	809	809	809	
5°	800	808	798	794	797	76
15°	763	754	722	702	700	215
25°	695	666	608	564	554	320
35°	602	556	472	415	400	377
45°	496	433	338	279	268	382
55°	378	306	215	173	171	338
65°	257	183	123	110	109	253
75°	132	80	64	59	60	141
85°	30	20	18	17	17	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	809.1	809.1	809.1	809.1	809.1
2.5°	803.1	812.6	805.5	806.7	807.9
5°	799.5	808.5	797.8	793.6	797.2
7.5°	793.6	799.5	782.9	775.1	778.7
10°	785.8	787.0	765.0	753.7	755.5
12.5°	775.1	772.2	745.4	729.3	730.5
15°	762.6	754.3	722.1	702.5	700.1
17.5°	748.3	734.6	696.5	671.5	666.8
20°	732.3	713.8	669.2	637.0	631.7
22.5°	714.4	690.6	639.4	601.3	593.6
25°	694.8	666.2	608.4	564.4	553.7
27.5°	673.3	640.0	575.1	526.9	513.2
30°	650.7	612.6	541.2	489.4	475.1
32.5°	627.5	584.6	506.6	451.9	437.0
35°	602.5	555.5	472.1	415.0	400.1
37.5°	576.9	525.1	437.0	379.2	363.8
40°	550.7	494.7	403.0	343.5	331.0
42.5°	523.9	463.8	369.7	310.2	298.9
45°	495.9	432.8	337.6	279.2	268.5
47.5°	467.3	401.3	304.8	250.0	239.9
50°	437.0	369.7	273.9	221.5	210.7
52.5°	407.8	337.6	244.1	193.5	188.1
55°	378.0	306.0	214.9	173.2	170.9
57.5°	348.3	274.5	188.1	157.2	154.8
60°	317.9	243.5	160.7	140.5	138.1
62.5°	287.5	213.1	140.5	124.4	123.2
65°	256.6	183.4	123.2	109.5	108.9
67.5°	223.8	154.8	107.8	96.4	95.8
70°	192.9	126.2	92.3	83.3	83.3
72.5°	163.7	100.0	78.0	70.8	70.8
75°	132.2	80.4	64.3	58.9	59.5
77.5°	104.2	63.1	51.8	48.2	48.2
80°	77.4	47.0	39.9	36.9	37.5
82.5°	52.4	32.7	28.6	26.8	26.8
85°	29.8	20.2	18.5	17.3	17.3
87.5°	10.7	9.5	8.9	7.7	8.3
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	17.98	19.50	18.34	19.82	20.13	13.76	15.28	14.12	15.59	15.91
	3H	19.75	21.12	20.13	21.45	21.81	15.37	16.74	15.74	17.06	17.43
	4H	20.42	21.71	20.82	22.06	22.44	16.00	17.28	16.40	17.63	18.01
	6H	20.93	22.12	21.35	22.49	22.88	16.50	17.68	16.91	18.05	18.44
	8H	21.10	22.23	21.52	22.62	23.02	16.67	17.80	17.09	18.19	18.59
	12H	21.20	22.28	21.63	22.66	23.09	16.79	17.87	17.22	18.25	18.68
4H	2H	18.07	19.36	18.47	19.71	20.09	14.47	15.76	14.87	16.11	16.49
	3H	20.02	21.09	20.43	21.49	21.89	16.28	17.35	16.69	17.75	18.15
	4H	20.77	21.74	21.21	22.15	22.59	17.02	17.98	17.45	18.40	18.83
	6H	21.41	22.25	21.87	22.69	23.15	17.63	18.47	18.09	18.91	19.37
	8H	21.63	22.41	22.09	22.86	23.32	17.85	18.63	18.31	19.08	19.54
	12H	21.78	22.48	22.26	22.96	23.43	18.02	18.72	18.50	19.20	19.67
8H	4H	20.83	21.62	21.29	22.06	22.53	17.41	18.19	17.87	18.63	19.10
	6H	21.53	22.18	22.03	22.67	23.15	18.14	18.79	18.63	19.28	19.75
	8H	21.80	22.38	22.31	22.89	23.38	18.43	19.01	18.94	19.52	20.01
	12H	22.02	22.53	22.52	23.02	23.59	18.67	19.19	19.18	19.68	20.24
12H	4H	20.82	21.52	21.30	22.00	22.47	17.46	18.16	17.94	18.64	19.11
	6H	21.52	22.11	22.04	22.62	23.10	18.22	18.80	18.73	19.31	19.80
	8H	21.83	22.35	22.34	22.84	23.40	18.57	19.08	19.08	19.58	20.14