

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: P1056152

Luminaire Tested: S124R3DR-H350D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056152
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-H350D850-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

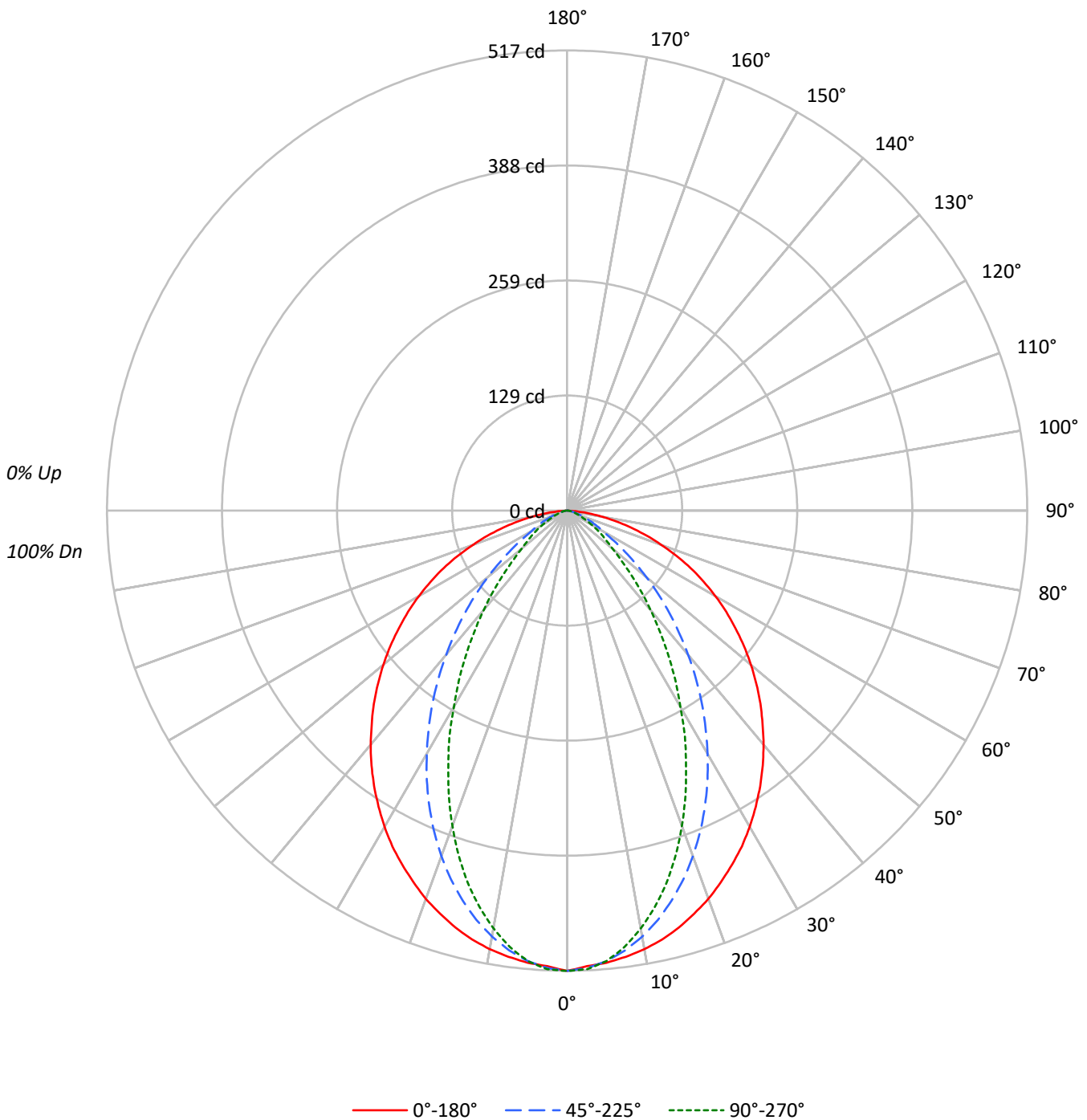
Lumens per Lamp: N/A
Luminaire Lumens: 836.2 lumens
Efficiency: N/A
Efficacy: 71.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89					89			
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60					60			
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54					54			
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48					48			
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44					44			
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37					37			
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34					34			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4573	4573	4573
5°	4525	4509	4509
10°	4492	4362	4280
15°	4438	4152	3958
20°	4368	3887	3547
25°	4280	3574	3082
30°	4189	3220	2595
35°	4080	2843	2136
40°	3962	2440	1684
45°	3841	2029	1258
50°	3710	1596	920
55°	3562	1181	735
60°	3406	817	562
65°	3203	634	412
70°	2900	447	323
75°	2535	311	246
80°	2037	244	219
85°	1126	193	193

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3841 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.0	5.7
10°-20°	128.2	15.3
20°-30°	171.0	20.4
30°-40°	172.1	20.6
40°-50°	141.2	16.9
50°-60°	96.5	11.5
60°-70°	53.9	6.4
70°-80°	21.4	2.6
80°-90°	4.1	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°	347.1	41.5
0°-40°	519.2	62.1
0°-60°	756.9	90.5
0°-90°	836.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	836.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	517	517	517	517	517	
5°	510	516	508	506	508	48
15°	485	480	454	438	432	137
25°	439	417	366	329	316	202
35°	378	338	263	213	198	236
45°	307	251	162	114	101	237
55°	231	162	77	51	48	207
65°	153	77	30	22	20	151
75°	74	20	9	8	7	79
85°	11	2	2	2	2	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	517.2	517.2	517.2	517.2	517.2
2.5°	512.3	518.6	514.3	514.7	515.7
5°	509.9	515.7	508.0	505.6	508.0
7.5°	505.6	509.9	498.4	493.6	494.5
10°	500.3	501.7	485.9	477.7	476.7
12.5°	493.6	491.6	470.9	458.9	456.0
15°	484.9	479.6	453.6	437.7	432.4
17.5°	474.8	465.6	434.3	413.6	405.9
20°	464.2	450.7	413.1	386.7	377.0
22.5°	451.7	434.8	390.5	358.3	347.2
25°	438.7	417.0	366.4	329.4	315.9
27.5°	425.2	398.7	341.4	300.0	286.5
30°	410.3	379.0	315.4	270.6	254.2
32.5°	394.4	358.7	289.4	241.7	226.3
35°	378.0	338.0	263.4	213.3	197.9
37.5°	361.1	316.8	237.4	186.3	170.9
40°	343.3	295.2	211.4	160.8	145.9
42.5°	325.0	273.0	186.3	136.8	122.8
45°	307.2	250.9	162.3	114.1	100.6
47.5°	288.4	228.7	138.7	92.9	81.4
50°	269.7	206.6	116.0	74.6	66.9
52.5°	250.4	184.4	95.3	61.2	55.9
55°	231.1	162.3	76.6	51.0	47.7
57.5°	211.9	140.1	59.2	43.3	39.5
60°	192.6	118.5	46.2	35.2	31.8
62.5°	172.9	96.8	38.0	27.9	25.0
65°	153.1	77.0	30.3	21.7	19.7
67.5°	133.4	58.7	23.1	16.9	15.4
70°	112.2	41.9	17.3	13.0	12.5
72.5°	93.9	28.4	12.5	10.1	9.6
75°	74.2	20.2	9.1	7.7	7.2
77.5°	57.3	13.0	6.7	6.3	5.8
80°	40.0	7.2	4.8	4.3	4.3
82.5°	24.6	3.9	3.4	2.9	2.9
85°	11.1	1.9	1.9	1.9	1.9
87.5°	1.9	1.0	1.0	1.0	1.0
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	16.00	17.41	16.37	17.72	18.04	7.09	8.50	7.46	8.81	9.13
	3H	17.59	18.84	17.97	19.17	19.54	7.68	8.94	8.06	9.27	9.63
	4H	18.19	19.35	18.59	19.70	20.09	7.84	9.01	8.24	9.36	9.74
	6H	18.62	19.69	19.03	20.06	20.46	7.95	9.02	8.36	9.39	9.79
	8H	18.73	19.75	19.16	20.14	20.55	7.97	8.99	8.40	9.38	9.78
	12H	18.77	19.75	19.21	20.13	20.56	7.98	8.95	8.41	9.33	9.76
4H	2H	15.86	17.03	16.26	17.38	17.76	7.67	8.84	8.08	9.19	9.57
	3H	17.51	18.47	17.92	18.87	19.27	8.39	9.35	8.80	9.75	10.15
	4H	18.11	18.97	18.55	19.39	19.83	8.59	9.45	9.02	9.87	10.31
	6H	18.61	19.35	19.07	19.79	20.26	8.76	9.50	9.22	9.94	10.41
	8H	18.75	19.44	19.22	19.89	20.36	8.79	9.48	9.26	9.93	10.40
	12H	18.82	19.44	19.31	19.92	20.39	8.81	9.43	9.30	9.91	10.38
8H	4H	18.01	18.70	18.47	19.14	19.61	8.86	9.55	9.33	10.00	10.47
	6H	18.49	19.05	18.99	19.55	20.03	9.07	9.63	9.57	10.13	10.61
	8H	18.63	19.14	19.15	19.65	20.14	9.12	9.63	9.64	10.14	10.63
	12H	18.72	19.17	19.24	19.67	20.23	9.18	9.63	9.69	10.12	10.69
12H	4H	17.97	18.58	18.45	19.06	19.53	8.89	9.50	9.37	9.98	10.46
	6H	18.43	18.94	18.95	19.45	19.94	9.09	9.60	9.61	10.12	10.61
	8H	18.60	19.05	19.11	19.54	20.11	9.19	9.64	9.70	10.13	10.70