

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: P1056149

Luminaire Tested: S124R3DR-H350D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056149
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-H350D840-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

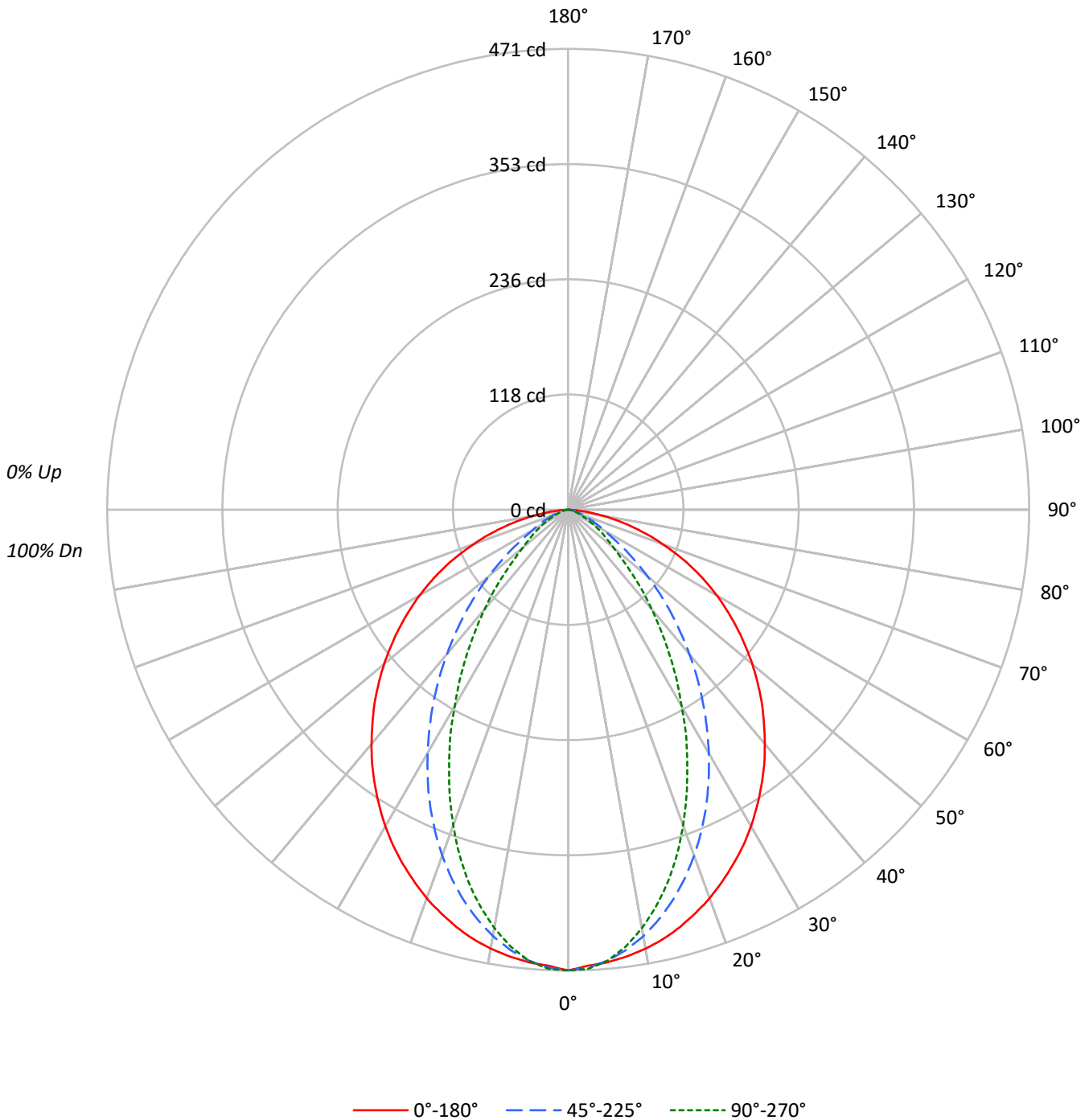
Lumens per Lamp: N/A
Luminaire Lumens: 761.5 lumens
Efficiency: N/A
Efficacy: 65.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	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°	4163	4163	4163
5°	4121	4106	4106
10°	4090	3972	3897
15°	4041	3780	3605
20°	3977	3540	3230
25°	3897	3255	2806
30°	3814	2932	2363
35°	3715	2588	1945
40°	3608	2222	1534
45°	3497	1848	1145
50°	3377	1454	838
55°	3245	1074	669
60°	3102	744	511
65°	2916	577	377
70°	2642	408	295
75°	2306	284	225
80°	1853	224	199
85°	1025	183	183

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3497 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.7	5.7
10°-20°	116.7	15.3
20°-30°	155.7	20.4
30°-40°	156.7	20.6
40°-50°	128.5	16.9
50°-60°	87.9	11.5
60°-70°	49.1	6.4
70°-80°	19.5	2.6
80°-90°	3.7	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°	316.1	41.5
0°-40°	472.8	62.1
0°-60°	689.2	90.5
0°-90°	761.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	761.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	471	471	471	471	471	
5°	464	470	463	460	463	44
15°	442	437	413	399	394	124
25°	400	380	334	300	288	184
35°	344	308	240	194	180	215
45°	280	228	148	104	92	216
55°	210	148	70	46	43	188
65°	139	70	28	20	18	138
75°	68	18	8	7	7	72
85°	10	2	2	2	2	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	470.9	470.9	470.9	470.9	470.9
2.5°	466.5	472.2	468.3	468.7	469.6
5°	464.3	469.6	462.6	460.4	462.6
7.5°	460.4	464.3	453.8	449.4	450.3
10°	455.6	456.9	442.4	435.0	434.1
12.5°	449.4	447.7	428.8	417.9	415.2
15°	441.5	436.7	413.0	398.6	393.8
17.5°	432.3	424.0	395.5	376.7	369.6
20°	422.7	410.4	376.2	352.1	343.3
22.5°	411.3	395.9	355.6	326.2	316.1
25°	399.5	379.7	333.7	299.9	287.6
27.5°	387.2	363.1	310.9	273.2	260.9
30°	373.6	345.1	287.2	246.4	231.5
32.5°	359.1	326.7	263.5	220.1	206.1
35°	344.2	307.8	239.8	194.2	180.2
37.5°	328.9	288.5	216.2	169.7	155.7
40°	312.6	268.8	192.5	146.5	132.9
42.5°	296.0	248.6	169.7	124.5	111.8
45°	279.7	228.4	147.8	103.9	91.6
47.5°	262.6	208.3	126.3	84.6	74.1
50°	245.5	188.1	105.7	68.0	60.9
52.5°	228.0	167.9	86.8	55.7	50.9
55°	210.5	147.8	69.7	46.5	43.4
57.5°	192.9	127.6	53.9	39.5	36.0
60°	175.4	107.9	42.1	32.0	28.9
62.5°	157.4	88.1	34.6	25.4	22.8
65°	139.4	70.2	27.6	19.7	18.0
67.5°	121.5	53.5	21.0	15.3	14.0
70°	102.2	38.1	15.8	11.8	11.4
72.5°	85.5	25.9	11.4	9.2	8.8
75°	67.5	18.4	8.3	7.0	6.6
77.5°	52.2	11.8	6.1	5.7	5.3
80°	36.4	6.6	4.4	3.9	3.9
82.5°	22.4	3.5	3.1	2.6	2.6
85°	10.1	1.8	1.8	1.8	1.8
87.5°	1.8	0.9	0.9	0.9	0.9
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	15.68	17.09	16.04	17.40	17.71	6.78	8.18	7.14	8.50	8.81
	3H	17.27	18.52	17.65	18.85	19.21	7.36	8.62	7.74	8.94	9.31
	4H	17.86	19.03	18.26	19.38	19.76	7.52	8.69	7.92	9.04	9.42
	6H	18.29	19.37	18.71	19.74	20.13	7.63	8.70	8.04	9.07	9.47
	8H	18.41	19.43	18.83	19.82	20.22	7.65	8.67	8.08	9.06	9.46
	12H	18.45	19.42	18.88	19.81	20.24	7.66	8.63	8.09	9.01	9.44
4H	2H	15.53	16.70	15.94	17.05	17.43	7.36	8.53	7.76	8.88	9.26
	3H	17.18	18.14	17.59	18.54	18.95	8.07	9.02	8.48	9.43	9.83
	4H	17.79	18.65	18.22	19.06	19.50	8.27	9.13	8.70	9.55	9.99
	6H	18.28	19.02	18.74	19.47	19.93	8.44	9.18	8.90	9.62	10.09
	8H	18.42	19.11	18.89	19.56	20.03	8.47	9.16	8.93	9.60	10.07
	12H	18.50	19.11	18.98	19.59	20.06	8.49	9.11	8.98	9.59	10.06
8H	4H	17.68	18.37	18.15	18.82	19.29	8.54	9.23	9.01	9.68	10.15
	6H	18.16	18.73	18.66	19.22	19.70	8.74	9.31	9.24	9.80	10.28
	8H	18.31	18.81	18.83	19.33	19.82	8.80	9.31	9.32	9.82	10.31
	12H	18.40	18.85	18.91	19.34	19.91	8.86	9.31	9.37	9.80	10.37
12H	4H	17.64	18.25	18.13	18.74	19.21	8.57	9.18	9.05	9.66	10.13
	6H	18.11	18.62	18.63	19.13	19.62	8.77	9.28	9.29	9.79	10.28
	8H	18.27	18.72	18.78	19.21	19.78	8.86	9.31	9.37	9.80	10.37