

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: P1056160

Luminaire Tested: S124R3DR-H350D935-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056160
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-H350D935-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

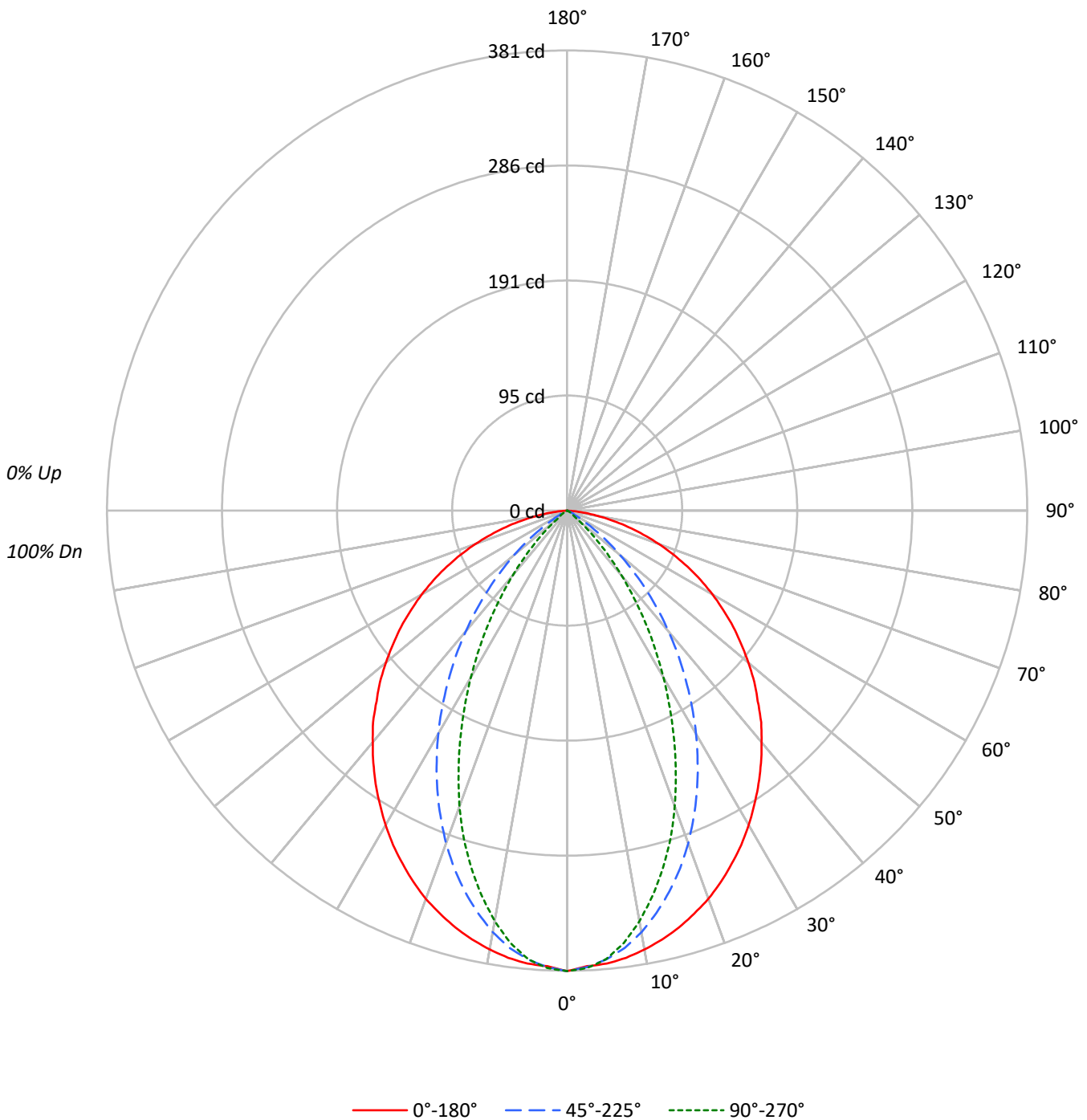
Lumens per Lamp: N/A
Luminaire Lumens: 533.0 lumens
Efficiency: N/A
Efficacy: 45.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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°	3371	3371	3371
5°	3341	3311	3308
10°	3313	3182	3098
15°	3271	2990	2805
20°	3219	2758	2452
25°	3147	2484	2046
30°	3069	2180	1626
35°	2982	1848	1211
40°	2891	1506	807
45°	2791	1150	444
50°	2695	787	124
55°	2588	427	80
60°	2460	133	46
65°	2299	86	23
70°	2078	39	10
75°	1787	14	0
80°	1349	0	0
85°	568	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2791 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.2	6.6
10°-20°	92.4	17.3
20°-30°	119.3	22.4
30°-40°	114.1	21.4
40°-50°	85.3	16.0
50°-60°	50.8	9.5
60°-70°	25.8	4.8
70°-80°	9.0	1.7
80°-90°	1.2	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°	246.9	46.3
0°-40°	360.9	67.7
0°-60°	497.0	93.3
0°-90°	533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	533.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	381	381	381	381	381	
5°	376	379	373	371	373	36
15°	357	350	327	311	306	101
25°	323	300	255	221	210	149
35°	276	238	171	128	112	173
45°	223	171	92	49	36	173
55°	168	104	28	6	5	150
65°	110	42	4	2	1	109
75°	52	6	0	0	0	56
85°	6	0	0	0	0	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	381.3	381.3	381.3	381.3	381.3
2.5°	377.6	382.1	378.3	378.7	379.1
5°	376.5	379.4	373.1	371.2	372.7
7.5°	373.5	374.6	365.2	360.4	360.8
10°	369.0	367.9	354.4	346.2	345.1
12.5°	363.7	360.0	341.3	329.4	326.7
15°	357.4	349.9	326.7	311.4	306.5
17.5°	349.9	339.1	310.7	290.5	284.5
20°	342.1	327.1	293.1	268.0	260.6
22.5°	332.7	313.7	274.0	244.5	235.1
25°	322.6	300.2	254.6	220.9	209.7
27.5°	312.2	285.6	234.0	197.0	183.9
30°	300.6	270.3	213.5	172.7	159.3
32.5°	288.6	254.6	192.2	150.3	135.3
35°	276.3	238.1	171.2	127.5	112.2
37.5°	263.6	221.7	151.0	105.8	90.1
40°	250.5	204.9	130.5	85.2	69.9
42.5°	237.8	188.0	111.0	65.8	51.6
45°	223.2	171.2	92.0	49.0	35.5
47.5°	210.1	154.8	73.6	33.3	20.9
50°	195.9	137.2	57.2	19.4	9.0
52.5°	181.7	120.7	41.9	8.6	6.7
55°	167.9	104.3	27.7	6.4	5.2
57.5°	153.3	87.9	15.0	4.9	3.7
60°	139.1	71.8	7.5	3.7	2.6
62.5°	124.5	56.4	6.0	2.2	1.5
65°	109.9	42.2	4.1	1.5	1.1
67.5°	95.3	28.8	2.6	0.7	0.4
70°	80.4	17.6	1.5	0.4	0.4
72.5°	66.2	9.0	0.7	0.4	0.4
75°	52.3	5.6	0.4	0.4	0.0
77.5°	38.9	3.0	0.4	0.4	0.0
80°	26.5	1.1	0.0	0.0	0.0
82.5°	15.3	0.4	0.0	0.0	0.0
85°	5.6	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	14.68	16.01	15.05	16.32	16.64	0.00	0.00	0.00	0.00	0.00
	3H	16.22	17.40	16.60	17.73	18.09	0.00	0.00	0.00	0.00	0.00
	4H	16.82	17.91	17.22	18.26	18.64	0.00	0.00	0.00	0.00	0.00
	6H	17.23	18.24	17.65	18.61	19.00	0.00	0.00	0.00	0.00	0.00
	8H	17.33	18.28	17.76	18.67	19.08	0.00	0.00	0.00	0.00	0.00
	12H	17.35	18.26	17.78	18.64	19.07	0.00	0.00	0.00	0.00	0.00
4H	2H	14.46	15.55	14.86	15.90	16.29	0.00	0.00	0.00	0.00	0.00
	3H	16.02	16.91	16.43	17.32	17.72	0.00	0.00	0.00	0.00	0.00
	4H	16.60	17.40	17.04	17.82	18.26	0.00	0.00	0.00	0.00	0.00
	6H	17.06	17.75	17.53	18.20	18.66	0.00	0.00	0.00	0.00	0.00
	8H	17.18	17.82	17.65	18.27	18.74	0.00	0.00	0.00	0.00	0.00
	12H	17.22	17.79	17.71	18.27	18.75	0.00	0.00	0.00	0.00	0.00
8H	4H	16.47	17.11	16.94	17.56	18.03	0.00	0.00	0.00	0.00	0.00
	6H	16.91	17.43	17.41	17.93	18.41	0.00	0.00	0.00	0.00	0.00
	8H	17.02	17.49	17.55	18.01	18.50	0.00	0.00	0.00	0.00	0.00
	12H	17.07	17.49	17.59	17.98	18.55	0.00	0.00	0.00	0.00	0.00
12H	4H	16.42	16.99	16.91	17.47	17.94	0.00	0.00	0.00	0.00	0.00
	6H	16.85	17.31	17.37	17.83	18.32	0.00	0.00	0.00	0.00	0.00
	8H	16.98	17.39	17.50	17.89	18.46	0.00	0.00	0.00	0.00	0.00