

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: P1056159

Luminaire Tested: S124R3DR-H350D930-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056159
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-H350D930-X4F0-XX-UDD-FLL-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

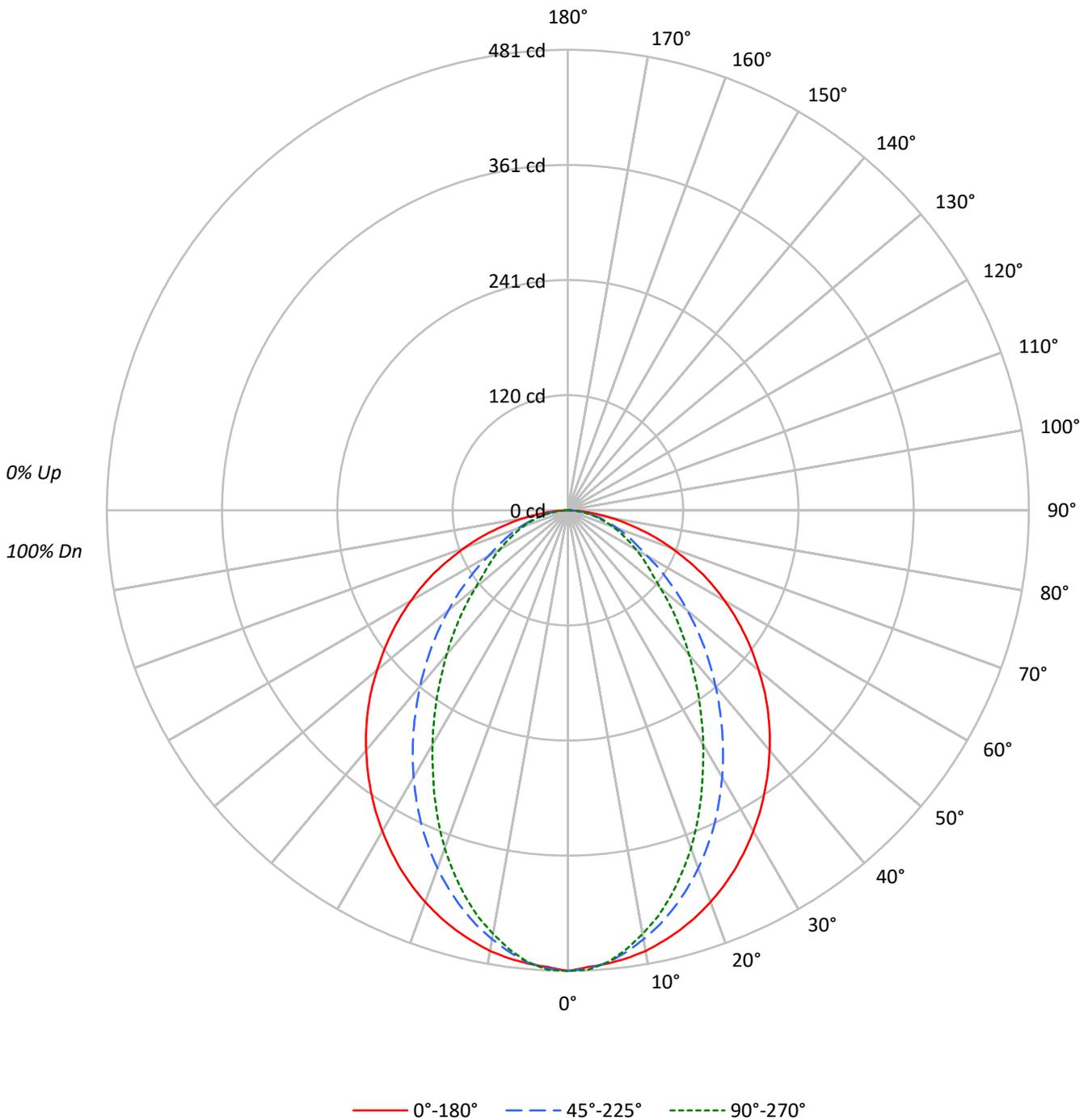
Lumens per Lamp: N/A
Luminaire Lumens: 958.2 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (A_{in}): 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

TEST NUMBER: P1056159

CATALOG NUMBER: S124R3DR-H350D930-X4F0-XX-UDD-FLL-W

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	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4254	4254	4254
5°	4219	4210	4207
10°	4195	4084	4033
15°	4151	3930	3811
20°	4097	3744	3534
25°	4030	3529	3211
30°	3950	3285	2884
35°	3866	3030	2568
40°	3779	2767	2271
45°	3687	2509	1997
50°	3573	2239	1723
55°	3465	1970	1566
60°	3342	1690	1452
65°	3192	1533	1356
70°	2965	1419	1282
75°	2685	1305	1209
80°	2342	1207	1135
85°	1796	1116	1045

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3687 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.8	4.7
10°-20°	121.5	12.7
20°-30°	168.2	17.6
30°-40°	180.6	18.8
40°-50°	164.2	17.1
50°-60°	129.3	13.5
60°-70°	88.5	9.2
70°-80°	47.6	5.0
80°-90°	13.5	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°	334.5	34.9
0°-40°	515.1	53.8
0°-60°	808.6	84.4
0°-90°	958.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	958.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	481	481	481	481	481	
5°	475	481	474	472	474	45
15°	454	448	429	418	416	128
25°	413	396	362	336	329	190
35°	358	330	281	247	238	224
45°	295	257	201	166	160	227
55°	225	182	128	103	102	201
65°	153	109	73	65	65	151
75°	79	48	38	35	35	84
85°	18	12	11	10	10	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	481.1	481.1	481.1	481.1	481.1
2.5°	477.5	483.2	479.0	479.7	480.4
5°	475.4	480.7	474.4	471.9	474.0
7.5°	471.9	475.4	465.5	460.9	463.0
10°	467.3	468.0	454.9	448.2	449.2
12.5°	460.9	459.1	443.2	433.6	434.4
15°	453.5	448.5	429.4	417.7	416.3
17.5°	445.0	436.8	414.2	399.3	396.5
20°	435.4	424.4	397.9	378.8	375.6
22.5°	424.8	410.6	380.2	357.5	352.9
25°	413.1	396.1	361.8	335.6	329.2
27.5°	400.4	380.5	342.0	313.3	305.1
30°	386.9	364.3	321.8	291.0	282.5
32.5°	373.1	347.6	301.3	268.7	259.8
35°	358.2	330.3	280.7	246.7	237.9
37.5°	343.0	312.2	259.8	225.5	216.3
40°	327.4	294.2	239.7	204.3	196.8
42.5°	311.5	275.8	219.8	184.4	177.7
45°	294.9	257.4	200.7	166.0	159.7
47.5°	277.9	238.6	181.2	148.7	142.7
50°	259.8	219.8	162.8	131.7	125.3
52.5°	242.5	200.7	145.1	115.0	111.9
55°	224.8	182.0	127.8	103.0	101.6
57.5°	207.1	163.2	111.9	93.5	92.0
60°	189.0	144.8	95.6	83.5	82.1
62.5°	171.0	126.7	83.5	74.0	73.3
65°	152.6	109.0	73.3	65.1	64.8
67.5°	133.1	92.0	64.1	57.3	57.0
70°	114.7	75.0	54.9	49.6	49.6
72.5°	97.3	59.5	46.4	42.1	42.1
75°	78.6	47.8	38.2	35.0	35.4
77.5°	61.9	37.5	30.8	28.7	28.7
80°	46.0	28.0	23.7	21.9	22.3
82.5°	31.2	19.5	17.0	15.9	15.9
85°	17.7	12.0	11.0	10.3	10.3
87.5°	6.4	5.7	5.3	4.6	5.0
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	16.17	17.70	16.54	18.01	18.32	11.95	13.48	12.32	13.79	14.10
	3H	17.95	19.32	18.32	19.64	20.01	13.56	14.93	13.94	15.26	15.62
	4H	18.62	19.90	19.02	20.25	20.63	14.19	15.48	14.59	15.83	16.21
	6H	19.13	20.32	19.54	20.68	21.07	14.69	15.88	15.10	16.25	16.64
	8H	19.29	20.42	19.72	20.81	21.21	14.86	15.99	15.29	16.38	16.78
	12H	19.39	20.47	19.82	20.86	21.29	14.98	16.07	15.41	16.45	16.88
4H	2H	16.27	17.55	16.67	17.90	18.28	12.67	13.95	13.07	14.30	14.68
	3H	18.21	19.28	18.62	19.68	20.08	14.48	15.55	14.89	15.95	16.35
	4H	18.97	19.93	19.40	20.35	20.78	15.21	16.18	15.64	16.59	17.03
	6H	19.60	20.44	20.06	20.88	21.34	15.83	16.67	16.29	17.11	17.57
	8H	19.82	20.61	20.28	21.05	21.52	16.04	16.83	16.51	17.27	17.74
	12H	19.98	20.68	20.46	21.16	21.63	16.21	16.91	16.69	17.39	17.86
8H	4H	19.02	19.81	19.49	20.25	20.72	15.60	16.39	16.06	16.83	17.30
	6H	19.72	20.37	20.22	20.86	21.34	16.33	16.98	16.83	17.47	17.95
	8H	19.99	20.57	20.51	21.08	21.57	16.62	17.20	17.13	17.71	18.20
	12H	20.21	20.72	20.72	21.22	21.78	16.87	17.38	17.37	17.87	18.44
12H	4H	19.02	19.72	19.50	20.20	20.67	15.66	16.36	16.14	16.84	17.31
	6H	19.72	20.30	20.23	20.81	21.30	16.41	17.00	16.93	17.51	18.00
	8H	20.03	20.54	20.53	21.03	21.60	16.76	17.28	17.27	17.77	18.33