

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: P1056114

Luminaire Tested: S124R3DR-H1020D950-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056114
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-H1020D950-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

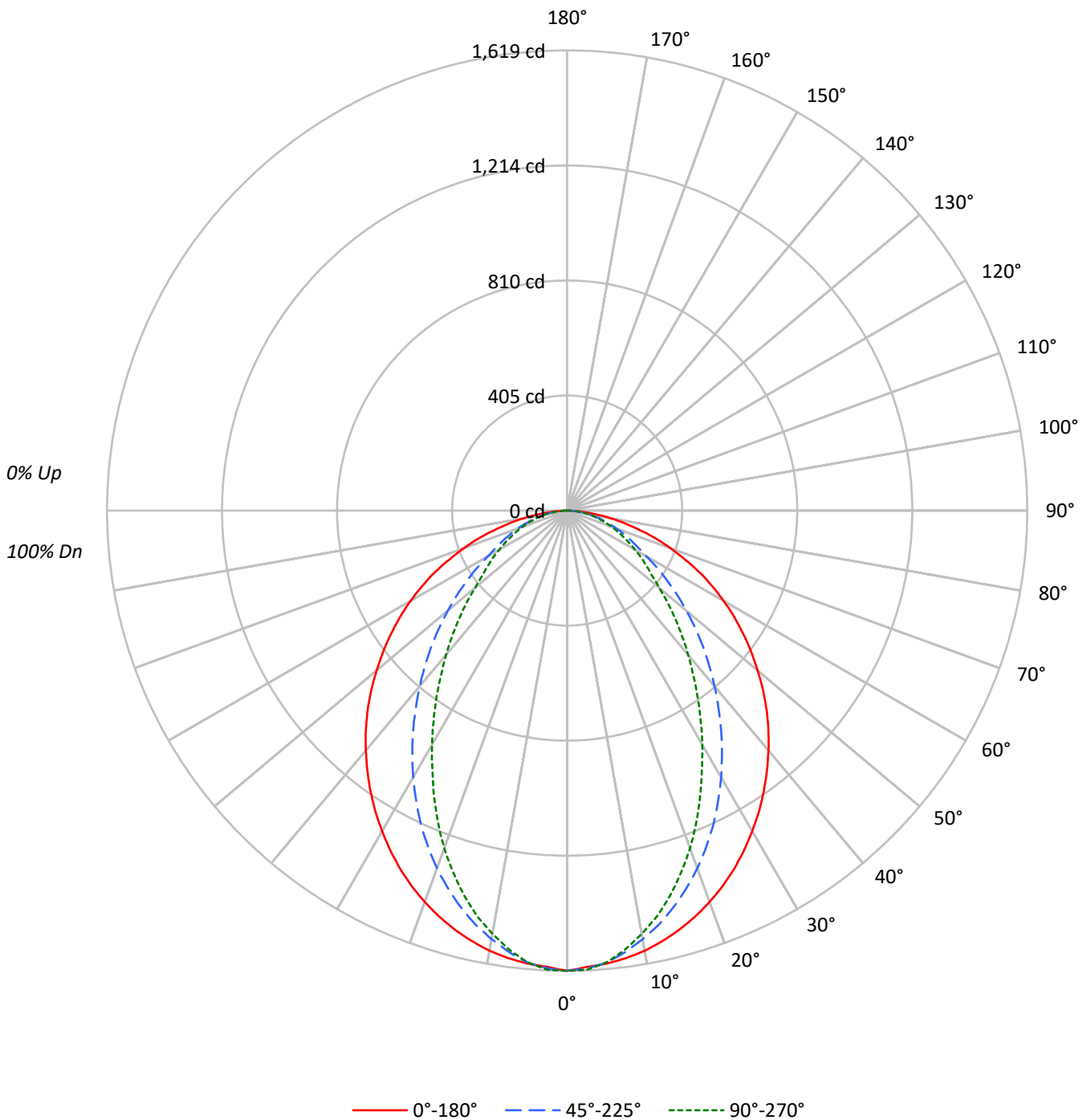
Lumens per Lamp: N/A
Luminaire Lumens: 3224.9 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	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°	14315	14315	14315
5°	14201	14169	14159
10°	14118	13744	13573
15°	13970	13228	12825
20°	13788	12599	11894
25°	13564	11878	10809
30°	13294	11057	9706
35°	13014	10198	8641
40°	12719	9309	7645
45°	12409	8446	6718
50°	12029	7538	5802
55°	11661	6630	5270
60°	11250	5689	4888
65°	10743	5159	4561
70°	9978	4775	4312
75°	9035	4396	4069
80°	7887	4063	3824
85°	6046	3743	3510

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12409 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.7	4.7
10°-20°	408.9	12.7
20°-30°	566.2	17.6
30°-40°	607.7	18.8
40°-50°	552.6	17.1
50°-60°	435.2	13.5
60°-70°	297.9	9.2
70°-80°	160.3	5.0
80°-90°	45.4	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°	1125.8	34.9
0°-40°	1733.5	53.8
0°-60°	2721.3	84.4
0°-90°	3224.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3224.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1619	1619	1619	1619	1619	
5°	1600	1618	1596	1588	1595	152
15°	1526	1510	1445	1406	1401	430
25°	1390	1333	1218	1129	1108	640
35°	1206	1112	945	830	801	754
45°	992	866	676	559	537	765
55°	756	612	430	347	342	676
65°	514	367	247	219	218	507
75°	264	161	129	118	119	282
85°	60	40	37	35	35	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1619.1	1619.1	1619.1	1619.1	1619.1
2.5°	1607.2	1626.3	1612.0	1614.3	1616.7
5°	1600.1	1617.9	1596.5	1588.1	1595.3
7.5°	1588.1	1600.1	1566.7	1551.2	1558.4
10°	1572.6	1575.0	1530.9	1508.3	1511.9
12.5°	1551.2	1545.2	1491.6	1459.5	1461.8
15°	1526.2	1509.5	1445.2	1405.9	1401.1
17.5°	1497.6	1470.2	1393.9	1343.9	1334.4
20°	1465.4	1428.5	1339.1	1274.8	1264.1
22.5°	1429.7	1382.0	1279.6	1203.3	1187.8
25°	1390.4	1333.2	1217.6	1129.4	1108.0
27.5°	1347.5	1280.8	1150.9	1054.4	1027.0
30°	1302.2	1226.0	1083.0	979.3	950.7
32.5°	1255.7	1170.0	1013.9	904.3	874.5
35°	1205.7	1111.6	944.8	830.4	800.6
37.5°	1154.5	1050.8	874.5	758.9	727.9
40°	1102.0	990.1	806.6	687.4	662.4
42.5°	1048.4	928.1	739.9	620.7	598.1
45°	992.4	866.1	675.5	558.8	537.3
47.5°	935.2	803.0	610.0	500.4	480.1
50°	874.5	739.9	548.0	443.2	421.8
52.5°	816.1	675.5	488.5	387.2	376.5
55°	756.5	612.4	430.1	346.7	341.9
57.5°	697.0	549.2	376.5	314.5	309.8
60°	636.2	487.3	321.7	281.2	276.4
62.5°	575.4	426.5	281.2	249.0	246.6
65°	513.5	367.0	246.6	219.2	218.0
67.5°	448.0	309.8	215.6	193.0	191.8
70°	386.0	252.6	184.7	166.8	166.8
72.5°	327.6	200.2	156.1	141.8	141.8
75°	264.5	160.8	128.7	117.9	119.1
77.5°	208.5	126.3	103.7	96.5	96.5
80°	154.9	94.1	79.8	73.9	75.1
82.5°	104.8	65.5	57.2	53.6	53.6
85°	59.6	40.5	36.9	34.6	34.6
87.5°	21.4	19.1	17.9	15.5	16.7
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	20.39	21.91	20.75	22.23	22.54	16.17	17.69	16.53	18.00	18.32
	3H	22.16	23.53	22.54	23.86	24.22	17.78	19.15	18.15	19.47	19.84
	4H	22.83	24.12	23.23	24.47	24.85	18.41	19.69	18.81	20.04	20.42
	6H	23.34	24.53	23.76	24.90	25.29	18.91	20.10	19.32	20.46	20.85
	8H	23.51	24.64	23.93	25.03	25.43	19.08	20.21	19.50	20.60	21.00
	12H	23.61	24.69	24.04	25.07	25.50	19.20	20.28	19.63	20.67	21.10
4H	2H	20.48	21.77	20.88	22.12	22.50	16.88	18.17	17.28	18.52	18.90
	3H	22.43	23.50	22.84	23.90	24.30	18.69	19.76	19.10	20.16	20.56
	4H	23.18	24.15	23.62	24.56	25.00	19.43	20.39	19.86	20.81	21.25
	6H	23.82	24.66	24.28	25.10	25.56	20.04	20.88	20.50	21.33	21.79
	8H	24.04	24.82	24.50	25.27	25.73	20.26	21.05	20.72	21.49	21.96
	12H	24.19	24.89	24.67	25.37	25.84	20.43	21.13	20.91	21.61	22.08
8H	4H	23.24	24.03	23.70	24.47	24.94	19.82	20.60	20.28	21.05	21.51
	6H	23.94	24.59	24.44	25.08	25.56	20.55	21.20	21.05	21.69	22.17
	8H	24.21	24.79	24.72	25.30	25.79	20.84	21.42	21.35	21.93	22.42
	12H	24.43	24.94	24.93	25.43	26.00	21.08	21.60	21.59	22.09	22.65
12H	4H	23.23	23.93	23.71	24.41	24.88	19.87	20.57	20.35	21.05	21.52
	6H	23.93	24.52	24.45	25.03	25.51	20.63	21.22	21.14	21.72	22.21
	8H	24.24	24.76	24.75	25.25	25.81	20.98	21.50	21.49	21.99	22.55