

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: P1056124

Luminaire Tested: S124R3DR-H1195D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056124
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-H1195D850-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

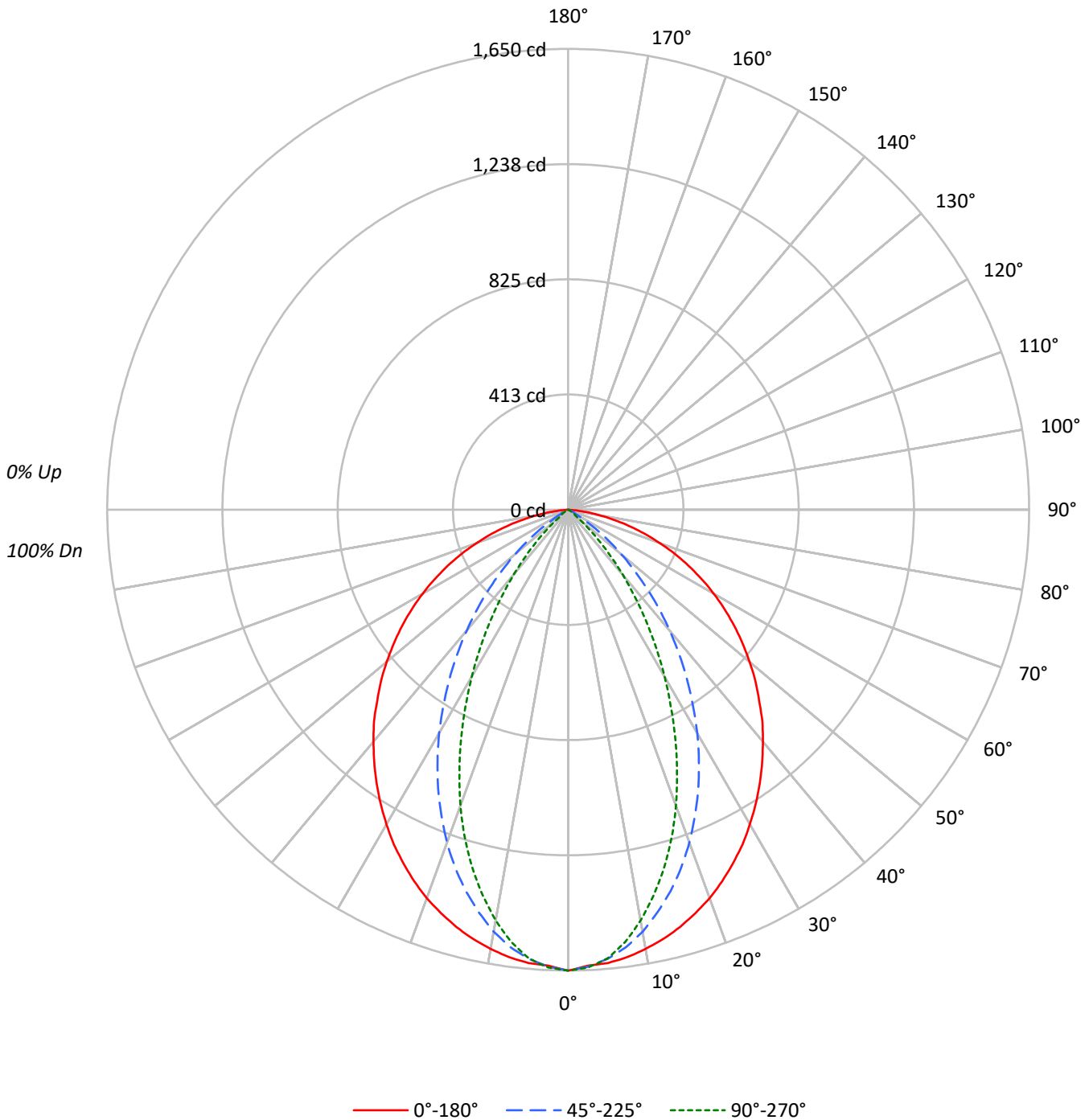
Lumens per Lamp: N/A
Luminaire Lumens: 2306.5 lumens
Efficiency: N/A
Efficacy: 63.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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

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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°	14591	14591	14591
5°	14459	14331	14316
10°	14337	13770	13407
15°	14157	12943	12144
20°	13929	11934	10610
25°	13620	10748	8854
30°	13280	9431	7036
35°	12905	7998	5239
40°	12511	6516	3491
45°	12077	4976	1922
50°	11661	3404	534
55°	11197	1845	350
60°	10643	573	200
65°	9952	372	103
70°	8991	168	41
75°	7737	55	0
80°	5850	0	0
85°	2465	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12077 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.2	6.6
10°-20°	399.7	17.3
20°-30°	516.5	22.4
30°-40°	493.6	21.4
40°-50°	369.2	16.0
50°-60°	219.7	9.5
60°-70°	111.5	4.8
70°-80°	38.8	1.7
80°-90°	5.3	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°	1068.4	46.3
0°-40°	1562.0	67.7
0°-60°	2150.9	93.3
0°-90°	2306.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2306.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1650	1650	1650	1650	1650	
5°	1629	1642	1615	1607	1613	155
15°	1547	1514	1414	1348	1327	436
25°	1396	1299	1102	956	908	643
35°	1196	1031	741	552	485	748
45°	966	741	398	212	154	747
55°	726	451	120	28	23	649
65°	476	183	18	6	5	470
75°	226	24	2	2	0	240
85°	24	0	0	0	0	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1650.3	1650.3	1650.3	1650.3	1650.3
2.5°	1634.1	1653.5	1637.3	1638.9	1640.6
5°	1629.2	1642.2	1614.7	1606.6	1613.0
7.5°	1616.3	1621.1	1580.7	1559.7	1561.3
10°	1596.9	1592.0	1533.8	1498.2	1493.3
12.5°	1574.2	1558.0	1477.1	1425.4	1414.0
15°	1546.7	1514.4	1414.0	1347.7	1326.7
17.5°	1514.4	1467.4	1344.5	1257.1	1231.2
20°	1480.4	1415.7	1268.4	1160.0	1127.7
22.5°	1439.9	1357.4	1185.9	1058.1	1017.7
25°	1396.2	1299.2	1101.8	956.2	907.6
27.5°	1350.9	1236.1	1012.8	852.6	796.0
30°	1300.8	1169.7	923.8	747.5	689.2
32.5°	1249.0	1101.8	831.6	650.4	585.7
35°	1195.6	1030.6	741.0	551.7	485.4
37.5°	1140.6	959.4	653.6	457.9	389.9
40°	1084.0	886.6	564.6	368.9	302.5
42.5°	1029.0	813.8	480.5	284.8	223.3
45°	965.9	741.0	398.0	211.9	153.7
47.5°	909.3	669.8	318.7	144.0	90.6
50°	847.8	593.8	247.5	84.1	38.8
52.5°	786.3	522.6	181.2	37.2	29.1
55°	726.4	451.4	119.7	27.5	22.7
57.5°	663.3	380.2	64.7	21.0	16.2
60°	601.9	310.6	32.4	16.2	11.3
62.5°	538.8	244.3	25.9	9.7	6.5
65°	475.7	182.8	17.8	6.5	4.9
67.5°	412.6	124.6	11.3	3.2	1.6
70°	347.8	76.0	6.5	1.6	1.6
72.5°	286.4	38.8	3.2	1.6	1.6
75°	226.5	24.3	1.6	1.6	0.0
77.5°	168.3	12.9	1.6	1.6	0.0
80°	114.9	4.9	0.0	0.0	0.0
82.5°	66.3	1.6	0.0	0.0	0.0
85°	24.3	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	19.77	21.10	20.13	21.41	21.72	0.00	0.00	0.00	0.07	0.38
	3H	21.31	22.49	21.69	22.82	23.18	0.00	0.00	0.00	0.00	0.22
	4H	21.90	23.00	22.31	23.35	23.73	0.00	0.00	0.00	0.00	0.12
	6H	22.32	23.33	22.74	23.70	24.09	0.00	0.00	0.00	0.00	0.00
	8H	22.42	23.37	22.85	23.76	24.17	0.00	0.00	0.00	0.00	0.00
	12H	22.44	23.35	22.87	23.73	24.16	0.00	0.00	0.00	0.00	0.00
4H	2H	19.55	20.64	19.95	20.99	21.37	0.00	0.51	0.00	0.86	1.24
	3H	21.11	22.00	21.52	22.41	22.81	0.00	0.27	0.00	0.67	1.08
	4H	21.69	22.49	22.13	22.91	23.35	0.00	0.12	0.00	0.54	0.98
	6H	22.15	22.84	22.62	23.29	23.75	0.00	0.00	0.00	0.39	0.85
	8H	22.27	22.91	22.74	23.36	23.83	0.00	0.00	0.00	0.29	0.76
	12H	22.31	22.88	22.80	23.36	23.84	0.00	0.00	0.00	0.20	0.68
8H	4H	21.56	22.20	22.03	22.64	23.12	1.06	1.70	1.53	2.15	2.62
	6H	22.00	22.52	22.50	23.02	23.50	0.97	1.49	1.47	1.99	2.47
	8H	22.11	22.58	22.64	23.10	23.59	0.91	1.37	1.43	1.89	2.38
	12H	22.16	22.58	22.68	23.07	23.64	0.86	1.27	1.38	1.77	2.34
12H	4H	21.51	22.08	22.00	22.56	23.03	1.47	2.04	1.96	2.52	2.99
	6H	21.93	22.40	22.46	22.92	23.41	1.36	1.83	1.88	2.35	2.84
	8H	22.07	22.48	22.58	22.98	23.55	1.32	1.73	1.83	2.23	2.80