

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: P1056122

Luminaire Tested: S124R3DR-H1195D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056122
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-H1195D840-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

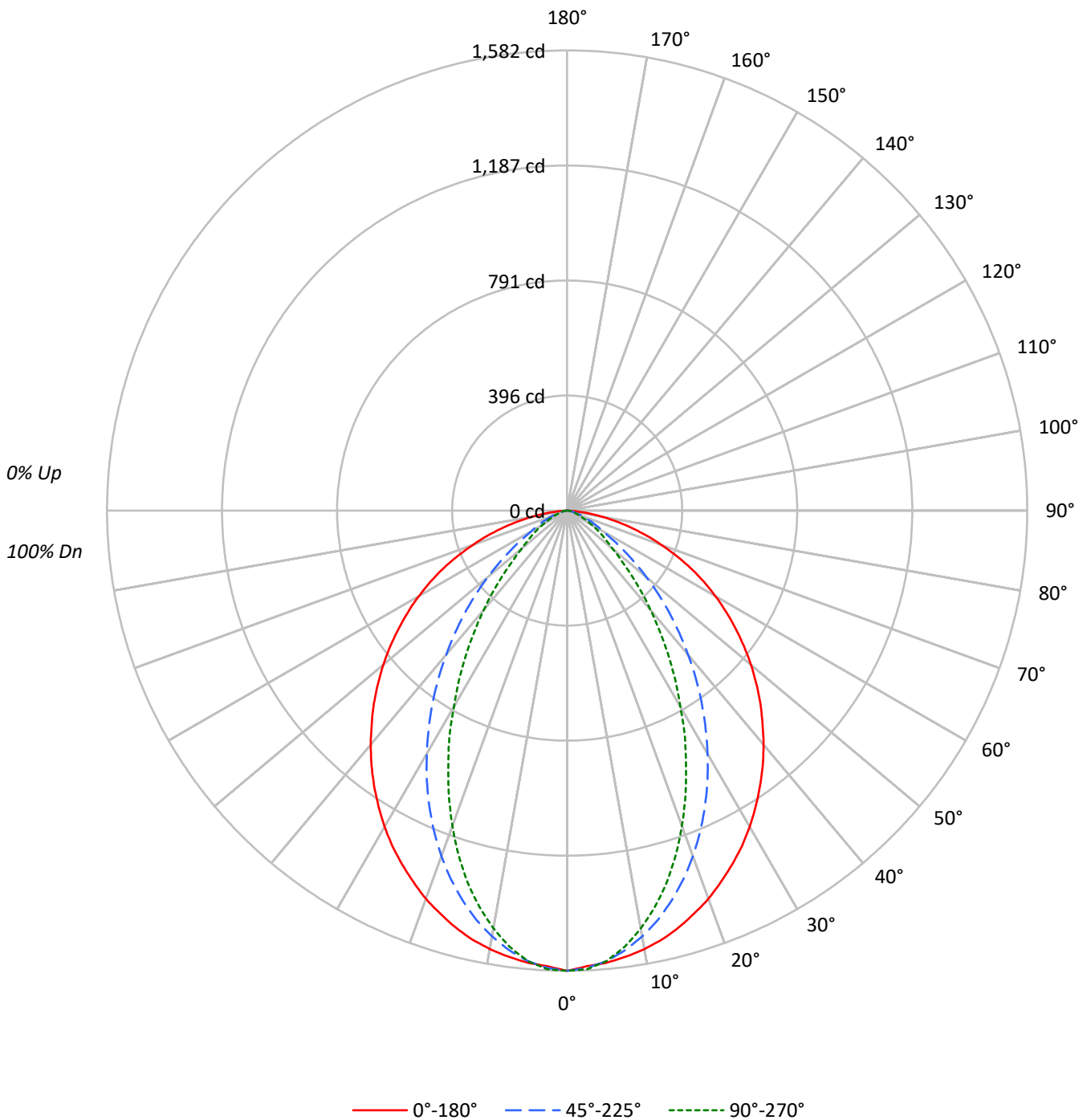
Lumens per Lamp: N/A
Luminaire Lumens: 2558.5 lumens
Efficiency: N/A
Efficacy: 69.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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°	13990	13990	13990
5°	13847	13795	13795
10°	13742	13345	13094
15°	13580	12703	12110
20°	13362	11894	10854
25°	13094	10938	9429
30°	12815	9852	7942
35°	12482	8698	6535
40°	12123	7465	5152
45°	11752	6208	3850
50°	11348	4884	2817
55°	10901	3612	2249
60°	10420	2500	1719
65°	9801	1941	1264
70°	8874	1370	990
75°	7751	956	755
80°	6227	748	677
85°	3439	599	599

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11752 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.8	5.7
10°-20°	392.2	15.3
20°-30°	523.1	20.4
30°-40°	526.6	20.6
40°-50°	431.9	16.9
50°-60°	295.2	11.5
60°-70°	165.0	6.4
70°-80°	65.4	2.6
80°-90°	12.4	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°	1062.0	41.5
0°-40°	1588.6	62.1
0°-60°	2315.7	90.5
0°-90°	2558.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2558.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1560	1578	1554	1547	1554	148
15°	1484	1467	1388	1339	1323	418
25°	1342	1276	1121	1008	966	618
35°	1156	1034	806	653	606	723
45°	940	768	496	349	308	725
55°	707	496	234	156	146	632
65°	468	236	93	66	60	463
75°	227	62	28	24	22	243
85°	34	6	6	6	6	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1582.3	1582.3	1582.3	1582.3	1582.3
2.5°	1567.6	1586.7	1573.5	1574.9	1577.9
5°	1560.2	1577.9	1554.3	1546.9	1554.3
7.5°	1546.9	1560.2	1524.8	1510.1	1513.1
10°	1530.7	1535.2	1486.5	1461.5	1458.5
12.5°	1510.1	1504.2	1440.9	1404.0	1395.2
15°	1483.6	1467.4	1387.8	1339.2	1323.0
17.5°	1452.6	1424.7	1328.9	1265.5	1242.0
20°	1420.2	1379.0	1264.1	1183.0	1153.6
22.5°	1381.9	1330.4	1194.8	1096.1	1062.2
25°	1342.2	1275.9	1121.2	1007.7	966.5
27.5°	1300.9	1219.9	1044.6	917.9	876.6
30°	1255.2	1159.5	965.0	828.0	777.9
32.5°	1206.6	1097.6	885.4	739.6	692.4
35°	1156.5	1034.2	805.9	652.7	605.5
37.5°	1105.0	969.4	726.3	570.2	523.0
40°	1050.4	903.1	646.8	492.1	446.4
42.5°	994.5	835.3	570.2	418.4	375.7
45°	939.9	767.6	496.5	349.2	307.9
47.5°	882.5	699.8	424.3	284.3	249.0
50°	825.0	632.0	355.1	228.4	204.8
52.5°	766.1	564.3	291.7	187.1	170.9
55°	707.2	496.5	234.3	156.2	145.9
57.5°	648.2	428.7	181.2	132.6	120.8
60°	589.3	362.4	141.4	107.5	97.2
62.5°	528.9	296.1	116.4	85.4	76.6
65°	468.5	235.7	92.8	66.3	60.4
67.5°	408.1	179.7	70.7	51.6	47.1
70°	343.3	128.2	53.0	39.8	38.3
72.5°	287.3	86.9	38.3	30.9	29.5
75°	226.9	61.9	28.0	23.6	22.1
77.5°	175.3	39.8	20.6	19.2	17.7
80°	122.3	22.1	14.7	13.3	13.3
82.5°	75.1	11.8	10.3	8.8	8.8
85°	33.9	5.9	5.9	5.9	5.9
87.5°	5.9	2.9	2.9	2.9	2.9
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	19.89	21.30	20.25	21.61	21.92	10.98	12.39	11.35	12.70	13.02
	3H	21.48	22.73	21.86	23.06	23.42	11.57	12.82	11.95	13.15	13.52
	4H	22.07	23.24	22.47	23.59	23.97	11.73	12.90	12.13	13.25	13.63
	6H	22.50	23.58	22.92	23.95	24.34	11.84	12.91	12.25	13.28	13.67
	8H	22.62	23.64	23.04	24.03	24.43	11.86	12.88	12.29	13.27	13.67
	12H	22.66	23.63	23.09	24.02	24.45	11.87	12.84	12.30	13.22	13.65
4H	2H	19.74	20.91	20.15	21.26	21.64	11.56	12.73	11.96	13.08	13.46
	3H	21.39	22.35	21.80	22.75	23.16	12.28	13.23	12.69	13.64	14.04
	4H	22.00	22.86	22.43	23.27	23.72	12.48	13.34	12.91	13.76	14.20
	6H	22.49	23.23	22.95	23.68	24.14	12.65	13.39	13.11	13.83	14.30
	8H	22.63	23.32	23.10	23.77	24.24	12.68	13.37	13.15	13.82	14.29
	12H	22.71	23.32	23.19	23.80	24.27	12.71	13.32	13.19	13.80	14.27
8H	4H	21.89	22.58	22.36	23.03	23.50	12.75	13.44	13.22	13.89	14.36
	6H	22.37	22.94	22.87	23.43	23.91	12.96	13.52	13.46	14.02	14.50
	8H	22.52	23.02	23.04	23.54	24.03	13.01	13.52	13.53	14.03	14.53
	12H	22.61	23.06	23.12	23.55	24.12	13.07	13.52	13.59	14.01	14.58
12H	4H	21.85	22.47	22.34	22.95	23.42	12.78	13.39	13.26	13.87	14.35
	6H	22.32	22.83	22.84	23.34	23.83	12.99	13.49	13.50	14.01	14.50
	8H	22.48	22.93	22.99	23.42	23.99	13.08	13.53	13.59	14.02	14.59