

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: P1055961

Luminaire Tested: S124R3DRP-S1020D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055961
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: S124R3DRP-S1020D840-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

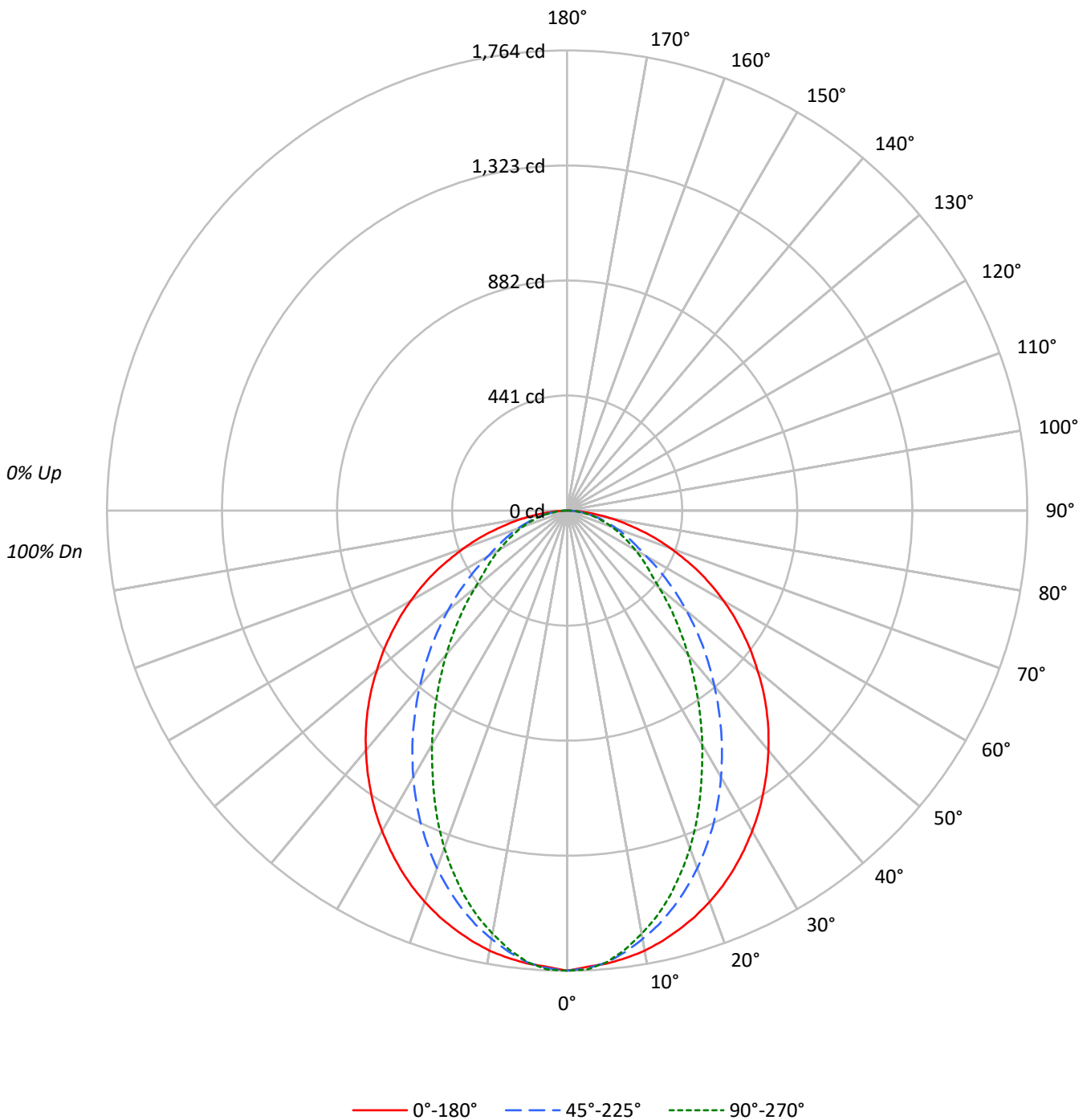
Lumens per Lamp: N/A
Luminaire Lumens: 3512.7 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
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	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					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°	15593	15593	15593
5°	15468	15434	15422
10°	15379	14971	14785
15°	15216	14409	13969
20°	15018	13725	12955
25°	14775	12939	11774
30°	14481	12044	10573
35°	14175	11107	9413
40°	13855	10140	8327
45°	13516	9200	7318
50°	13101	8212	6319
55°	12703	7222	5742
60°	12254	6196	5324
65°	11701	5619	4969
70°	10870	5201	4697
75°	9842	4789	4434
80°	8589	4425	4165
85°	6584	4078	3814

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13516 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.2	4.7
10°-20°	445.4	12.7
20°-30°	616.7	17.6
30°-40°	661.9	18.8
40°-50°	602.0	17.1
50°-60°	474.0	13.5
60°-70°	324.4	9.2
70°-80°	174.7	5.0
80°-90°	49.5	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°	1226.3	34.9
0°-40°	1888.2	53.8
0°-60°	2964.2	84.4
0°-90°	3512.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3512.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1764	1764	1764	1764	1764	
5°	1743	1762	1739	1730	1738	165
15°	1662	1644	1574	1531	1526	469
25°	1514	1452	1326	1230	1207	697
35°	1313	1211	1029	904	872	822
45°	1081	944	736	609	585	833
55°	824	667	468	378	372	737
65°	559	400	269	239	238	552
75°	288	175	140	128	130	308
85°	65	44	40	38	38	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1763.6	1763.6	1763.6	1763.6	1763.6
2.5°	1750.7	1771.4	1755.8	1758.4	1761.0
5°	1742.9	1762.3	1739.0	1729.9	1737.7
7.5°	1729.9	1742.9	1706.5	1689.7	1697.5
10°	1713.0	1715.6	1667.6	1642.9	1646.8
12.5°	1689.7	1683.2	1624.8	1589.7	1592.3
15°	1662.4	1644.2	1574.2	1531.3	1526.1
17.5°	1631.3	1601.4	1518.4	1463.9	1453.5
20°	1596.2	1556.0	1458.7	1388.6	1376.9
22.5°	1557.3	1505.4	1393.8	1310.7	1293.9
25°	1514.5	1452.2	1326.3	1230.3	1206.9
27.5°	1467.7	1395.1	1253.6	1148.5	1118.7
30°	1418.4	1335.4	1179.7	1066.7	1035.6
32.5°	1367.8	1274.4	1104.4	985.0	952.5
35°	1313.3	1210.8	1029.1	904.5	872.1
37.5°	1257.5	1144.6	952.5	826.7	792.9
40°	1200.4	1078.4	878.6	748.8	721.5
42.5°	1142.0	1010.9	805.9	676.1	651.5
45°	1081.0	943.5	735.8	608.6	585.3
47.5°	1018.7	874.7	664.4	545.1	523.0
50°	952.5	805.9	597.0	482.8	459.4
52.5°	889.0	735.8	532.1	421.8	410.1
55°	824.1	667.0	468.5	377.6	372.5
57.5°	759.2	598.3	410.1	342.6	337.4
60°	693.0	530.8	350.4	306.3	301.1
62.5°	626.8	464.6	306.3	271.2	268.6
65°	559.3	399.7	268.6	238.8	237.5
67.5°	488.0	337.4	234.9	210.2	208.9
70°	420.5	275.1	201.2	181.7	181.7
72.5°	356.9	218.0	170.0	154.4	154.4
75°	288.1	175.2	140.2	128.5	129.8
77.5°	227.1	137.6	112.9	105.1	105.1
80°	168.7	102.5	86.9	80.5	81.8
82.5°	114.2	71.4	62.3	58.4	58.4
85°	64.9	44.1	40.2	37.6	37.6
87.5°	23.4	20.8	19.5	16.9	18.2
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	20.69	22.21	21.05	22.52	22.84	16.46	17.99	16.83	18.30	18.62
	3H	22.46	23.83	22.84	24.16	24.52	18.07	19.44	18.45	19.77	20.13
	4H	23.13	24.42	23.53	24.77	25.14	18.71	19.99	19.10	20.34	20.72
	6H	23.64	24.83	24.05	25.20	25.59	19.20	20.39	19.62	20.76	21.15
	8H	23.80	24.94	24.23	25.33	25.73	19.38	20.51	19.80	20.90	21.30
	12H	23.90	24.99	24.33	25.37	25.80	19.50	20.58	19.93	20.96	21.39
4H	2H	20.78	22.07	21.18	22.42	22.79	17.18	18.47	17.58	18.82	19.19
	3H	22.73	23.80	23.14	24.19	24.60	18.99	20.06	19.40	20.46	20.86
	4H	23.48	24.44	23.91	24.86	25.30	19.73	20.69	20.16	21.10	21.54
	6H	24.12	24.96	24.57	25.40	25.86	20.34	21.18	20.80	21.62	22.08
	8H	24.34	25.12	24.80	25.56	26.03	20.56	21.34	21.02	21.79	22.25
	12H	24.49	25.19	24.97	25.67	26.14	20.72	21.43	21.21	21.90	22.38
8H	4H	23.54	24.32	24.00	24.77	25.23	20.11	20.90	20.58	21.34	21.81
	6H	24.24	24.89	24.73	25.38	25.85	20.85	21.50	21.34	21.99	22.46
	8H	24.51	25.09	25.02	25.60	26.09	21.13	21.72	21.65	22.23	22.71
	12H	24.72	25.24	25.23	25.73	26.29	21.38	21.89	21.89	22.39	22.95
12H	4H	23.53	24.23	24.01	24.71	25.18	20.17	20.87	20.65	21.35	21.82
	6H	24.23	24.81	24.74	25.32	25.81	20.93	21.51	21.44	22.02	22.51
	8H	24.54	25.05	25.05	25.55	26.11	21.28	21.79	21.79	22.28	22.85