

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: P1056111

Luminaire Tested: S124R3DR-H1020D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056111
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-H1020D940-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

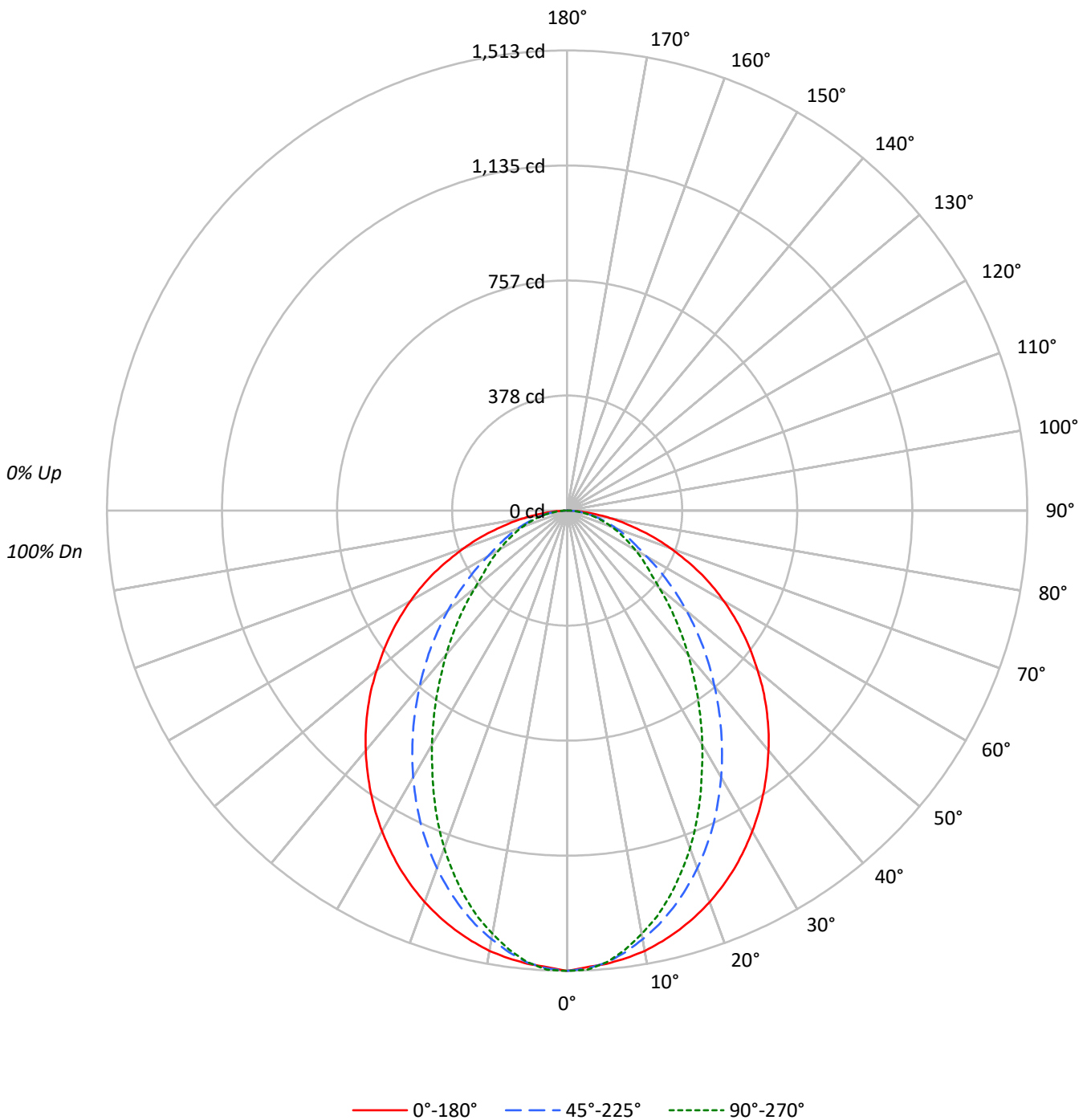
Lumens per Lamp: N/A
Luminaire Lumens: 3014.3 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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°	13381	13381	13381
5°	13274	13243	13234
10°	13197	12847	12687
15°	13057	12364	11987
20°	12887	11777	11116
25°	12678	11103	10104
30°	12427	10335	9073
35°	12164	9532	8077
40°	11889	8701	7147
45°	11598	7895	6279
50°	11243	7047	5422
55°	10900	6197	4926
60°	10516	5317	4569
65°	10042	4822	4264
70°	9327	4462	4030
75°	8444	4110	3805
80°	7373	3798	3574
85°	5650	3500	3277

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11598 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.9	4.7
10°-20°	382.2	12.7
20°-30°	529.2	17.6
30°-40°	568.0	18.8
40°-50°	516.6	17.1
50°-60°	406.8	13.5
60°-70°	278.4	9.2
70°-80°	149.9	5.0
80°-90°	42.4	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°	1052.3	34.9
0°-40°	1620.3	53.8
0°-60°	2543.6	84.4
0°-90°	3014.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3014.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1513	1513	1513	1513	1513	
5°	1496	1512	1492	1484	1491	142
15°	1426	1411	1351	1314	1310	402
25°	1300	1246	1138	1056	1036	598
35°	1127	1039	883	776	748	705
45°	928	810	631	522	502	715
55°	707	572	402	324	320	632
65°	480	343	230	205	204	474
75°	247	150	120	110	111	264
85°	56	38	34	32	32	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1513.4	1513.4	1513.4	1513.4	1513.4
2.5°	1502.3	1520.1	1506.7	1508.9	1511.2
5°	1495.6	1512.3	1492.2	1484.4	1491.1
7.5°	1484.4	1495.6	1464.4	1449.9	1456.6
10°	1470.0	1472.2	1431.0	1409.8	1413.2
12.5°	1449.9	1444.4	1394.2	1364.2	1366.4
15°	1426.5	1410.9	1350.8	1314.1	1309.6
17.5°	1399.8	1374.2	1302.9	1256.2	1247.2
20°	1369.7	1335.2	1251.7	1191.6	1181.5
22.5°	1336.3	1291.8	1196.0	1124.7	1110.3
25°	1299.6	1246.1	1138.1	1055.7	1035.7
27.5°	1259.5	1197.1	1075.7	985.5	959.9
30°	1217.2	1145.9	1012.3	915.4	888.7
32.5°	1173.7	1093.6	947.7	845.2	817.4
35°	1127.0	1039.0	883.1	776.2	748.3
37.5°	1079.1	982.2	817.4	709.4	680.4
40°	1030.1	925.4	753.9	642.6	619.2
42.5°	980.0	867.5	691.6	580.2	559.0
45°	927.6	809.6	631.4	522.3	502.2
47.5°	874.2	750.6	570.2	467.7	448.8
50°	817.4	691.6	512.3	414.3	394.2
52.5°	762.8	631.4	456.6	361.9	351.9
55°	707.1	572.4	402.0	324.1	319.6
57.5°	651.5	513.4	351.9	294.0	289.5
60°	594.7	455.5	300.7	262.8	258.4
62.5°	537.9	398.7	262.8	232.7	230.5
65°	480.0	343.0	230.5	204.9	203.8
67.5°	418.7	289.5	201.6	180.4	179.3
70°	360.8	236.1	172.6	155.9	155.9
72.5°	306.2	187.1	145.9	132.5	132.5
75°	247.2	150.3	120.3	110.2	111.4
77.5°	194.9	118.0	96.9	90.2	90.2
80°	144.8	88.0	74.6	69.0	70.2
82.5°	98.0	61.2	53.5	50.1	50.1
85°	55.7	37.9	34.5	32.3	32.3
87.5°	20.0	17.8	16.7	14.5	15.6
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	20.15	21.68	20.52	21.99	22.31	15.93	17.46	16.30	17.77	18.08
	3H	21.93	23.30	22.31	23.63	23.99	17.54	18.91	17.92	19.24	19.60
	4H	22.60	23.89	23.00	24.23	24.61	18.17	19.46	18.57	19.81	20.19
	6H	23.11	24.30	23.52	24.66	25.06	18.67	19.86	19.08	20.23	20.62
	8H	23.27	24.40	23.70	24.79	25.20	18.84	19.98	19.27	20.37	20.77
	12H	23.37	24.46	23.80	24.84	25.27	18.97	20.05	19.40	20.43	20.86
4H	2H	20.25	21.53	20.65	21.88	22.26	16.65	17.93	17.05	18.28	18.66
	3H	22.19	23.26	22.60	23.66	24.06	18.46	19.53	18.87	19.93	20.33
	4H	22.95	23.91	23.38	24.33	24.77	19.19	20.16	19.63	20.57	21.01
	6H	23.58	24.42	24.04	24.87	25.33	19.81	20.65	20.27	21.09	21.55
	8H	23.80	24.59	24.27	25.03	25.50	20.03	20.81	20.49	21.25	21.72
	12H	23.96	24.66	24.44	25.14	25.61	20.19	20.89	20.68	21.37	21.84
8H	4H	23.01	23.79	23.47	24.24	24.70	19.58	20.37	20.05	20.81	21.28
	6H	23.71	24.35	24.20	24.85	25.32	20.31	20.96	20.81	21.45	21.93
	8H	23.97	24.56	24.49	25.07	25.55	20.60	21.18	21.12	21.69	22.18
	12H	24.19	24.71	24.70	25.20	25.76	20.85	21.36	21.36	21.85	22.42
12H	4H	23.00	23.70	23.48	24.18	24.65	19.64	20.34	20.12	20.82	21.29
	6H	23.70	24.28	24.21	24.79	25.28	20.40	20.98	20.91	21.49	21.98
	8H	24.01	24.52	24.52	25.01	25.58	20.75	21.26	21.25	21.75	22.32