

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: P1056108

Luminaire Tested: S124R3DR-H1020D935-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056108
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-H1020D935-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

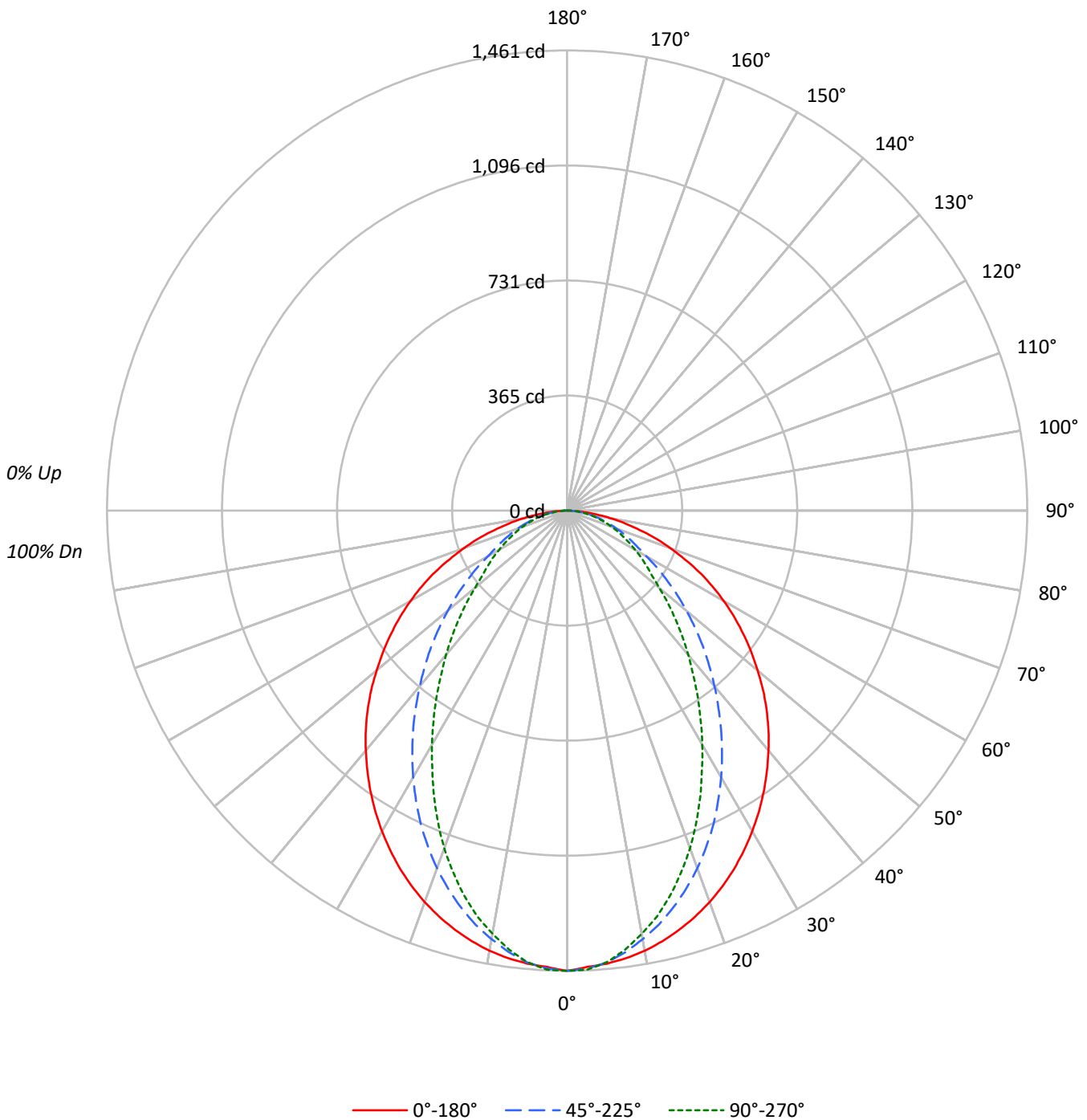
Lumens per Lamp: N/A
Luminaire Lumens: 2910.5 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	12920	12920	12920
5°	12817	12787	12778
10°	12742	12405	12250
15°	12608	11939	11574
20°	12444	11371	10734
25°	12241	10720	9755
30°	11999	9978	8760
35°	11745	9203	7799
40°	11479	8401	6900
45°	11199	7623	6063
50°	10855	6803	5235
55°	10525	5984	4757
60°	10153	5133	4412
65°	9695	4657	4117
70°	9006	4309	3890
75°	8154	3966	3672
80°	7118	3666	3447
85°	5458	3378	3165

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11199 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.0	4.7
10°-20°	369.0	12.7
20°-30°	511.0	17.6
30°-40°	548.4	18.8
40°-50°	498.7	17.1
50°-60°	392.8	13.5
60°-70°	268.8	9.2
70°-80°	144.7	5.0
80°-90°	41.0	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°	1016.0	34.9
0°-40°	1564.5	53.8
0°-60°	2456.0	84.4
0°-90°	2910.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2910.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1461	1461	1461	1461	1461	
5°	1444	1460	1441	1433	1440	137
15°	1377	1362	1304	1269	1264	388
25°	1255	1203	1099	1019	1000	578
35°	1088	1003	853	750	723	681
45°	896	782	610	504	485	691
55°	683	553	388	313	309	610
65°	463	331	223	198	197	457
75°	239	145	116	106	108	255
85°	54	37	33	31	31	65
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1461.3	1461.3	1461.3	1461.3	1461.3
2.5°	1450.5	1467.7	1454.8	1457.0	1459.1
5°	1444.1	1460.2	1440.8	1433.3	1439.8
7.5°	1433.3	1444.1	1414.0	1400.0	1406.4
10°	1419.3	1421.5	1381.7	1361.3	1364.5
12.5°	1400.0	1394.6	1346.2	1317.2	1319.3
15°	1377.4	1362.3	1304.3	1268.8	1264.5
17.5°	1351.6	1326.9	1258.0	1212.9	1204.3
20°	1322.6	1289.2	1208.6	1150.5	1140.8
22.5°	1290.3	1247.3	1154.8	1086.0	1072.0
25°	1254.8	1203.2	1098.9	1019.3	1000.0
27.5°	1216.1	1155.9	1038.7	951.6	926.9
30°	1175.3	1106.4	977.4	883.9	858.1
32.5°	1133.3	1055.9	915.0	816.1	789.2
35°	1088.2	1003.2	852.7	749.5	722.6
37.5°	1041.9	948.4	789.2	684.9	657.0
40°	994.6	893.5	727.9	620.4	597.8
42.5°	946.2	837.6	667.7	560.2	539.8
45°	895.7	781.7	609.7	504.3	484.9
47.5°	844.1	724.7	550.5	451.6	433.3
50°	789.2	667.7	494.6	400.0	380.6
52.5°	736.5	609.7	440.9	349.5	339.8
55°	682.8	552.7	388.2	312.9	308.6
57.5°	629.0	495.7	339.8	283.9	279.6
60°	574.2	439.8	290.3	253.8	249.5
62.5°	519.3	384.9	253.8	224.7	222.6
65°	463.4	331.2	222.6	197.8	196.8
67.5°	404.3	279.6	194.6	174.2	173.1
70°	348.4	228.0	166.7	150.5	150.5
72.5°	295.7	180.6	140.9	128.0	128.0
75°	238.7	145.2	116.1	106.5	107.5
77.5°	188.2	114.0	93.5	87.1	87.1
80°	139.8	84.9	72.0	66.7	67.7
82.5°	94.6	59.1	51.6	48.4	48.4
85°	53.8	36.6	33.3	31.2	31.2
87.5°	19.4	17.2	16.1	14.0	15.1
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	20.03	21.56	20.40	21.87	22.18	15.81	17.33	16.17	17.65	17.96
	3H	21.81	23.18	22.18	23.50	23.87	17.42	18.79	17.80	19.12	19.48
	4H	22.48	23.76	22.88	24.11	24.49	18.05	19.34	18.45	19.69	20.07
	6H	22.99	24.18	23.40	24.54	24.94	18.55	19.74	18.96	20.11	20.50
	8H	23.15	24.28	23.58	24.67	25.07	18.72	19.85	19.15	20.24	20.64
	12H	23.25	24.33	23.68	24.72	25.15	18.84	19.93	19.27	20.31	20.74
4H	2H	20.13	21.41	20.53	21.76	22.14	16.53	17.81	16.93	18.16	18.54
	3H	22.07	23.14	22.48	23.54	23.94	18.34	19.41	18.75	19.81	20.21
	4H	22.83	23.79	23.26	24.21	24.65	19.07	20.04	19.51	20.45	20.89
	6H	23.46	24.30	23.92	24.74	25.20	19.69	20.53	20.15	20.97	21.43
	8H	23.68	24.47	24.15	24.91	25.38	19.90	20.69	20.37	21.13	21.60
	12H	23.84	24.54	24.32	25.02	25.49	20.07	20.77	20.55	21.25	21.72
8H	4H	22.89	23.67	23.35	24.11	24.58	19.46	20.25	19.92	20.69	21.16
	6H	23.58	24.23	24.08	24.72	25.20	20.19	20.84	20.69	21.33	21.81
	8H	23.85	24.43	24.36	24.94	25.43	20.48	21.06	20.99	21.57	22.06
	12H	24.07	24.58	24.58	25.08	25.64	20.73	21.24	21.24	21.73	22.30
12H	4H	22.88	23.58	23.36	24.06	24.53	19.52	20.22	20.00	20.70	21.17
	6H	23.58	24.16	24.09	24.67	25.16	20.28	20.86	20.79	21.37	21.86
	8H	23.89	24.40	24.39	24.89	25.46	20.62	21.14	21.13	21.63	22.20