

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: P1056102

Luminaire Tested: S124R3DR-H1020D927-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056102
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-H1020D927-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

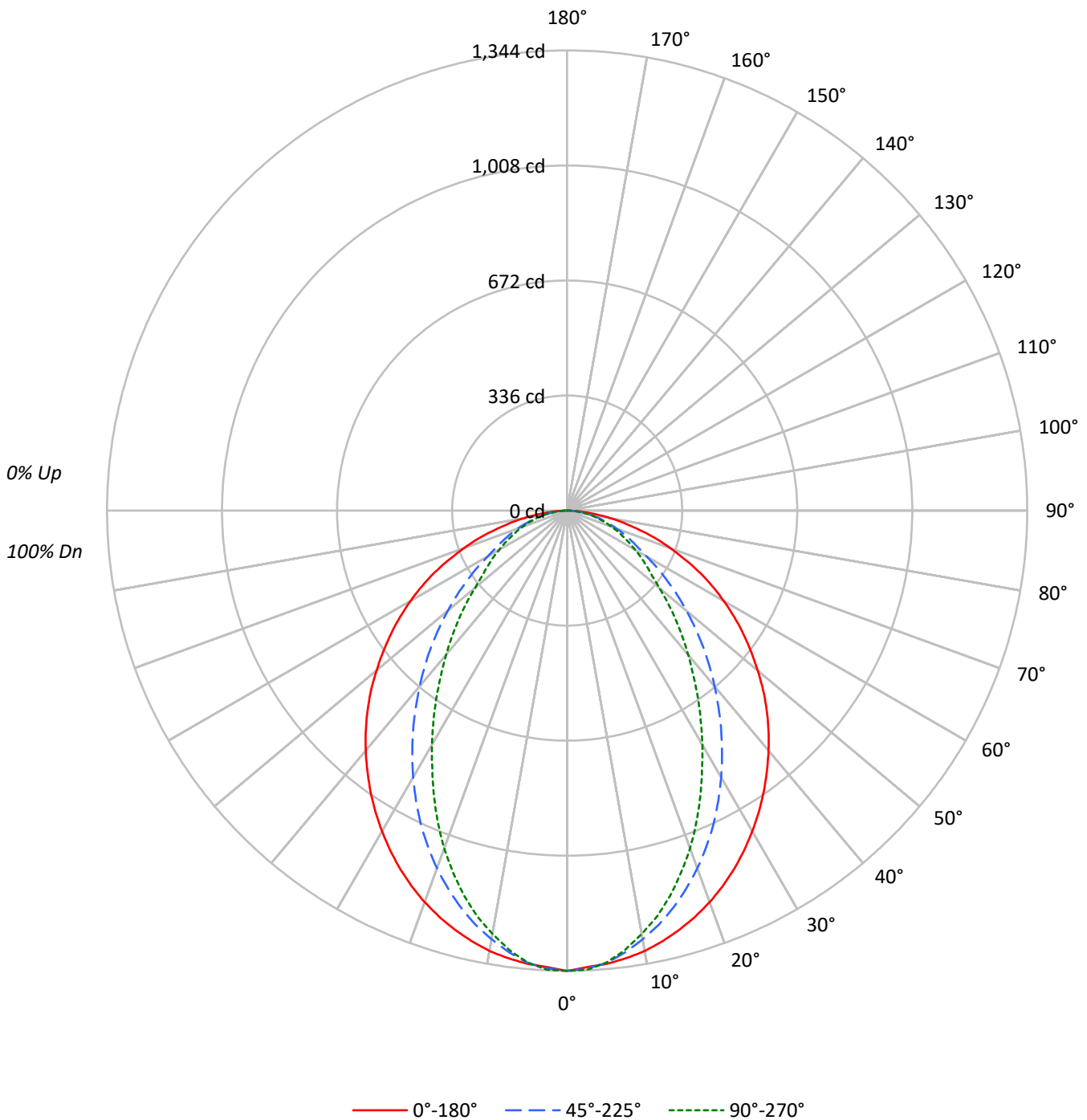
Lumens per Lamp: N/A
Luminaire Lumens: 2677.8 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
Input Current (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	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					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73					73			
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63					63			
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55					55			
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49					49			
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43					43			
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39					39			
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35					35			
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32					32			
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29					29			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11887	11887	11887
5°	11792	11766	11757
10°	11724	11413	11271
15°	11600	10984	10649
20°	11450	10463	9876
25°	11263	9864	8976
30°	11039	9181	8060
35°	10806	8467	7175
40°	10562	7731	6349
45°	10304	7013	5579
50°	9989	6260	4817
55°	9683	5505	4376
60°	9342	4723	4058
65°	8920	4285	3787
70°	8285	3963	3580
75°	7502	3648	3378
80°	6548	3376	3172
85°	5021	3114	2911

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10304 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.2	4.7
10°-20°	339.5	12.7
20°-30°	470.1	17.6
30°-40°	504.6	18.8
40°-50°	458.9	17.1
50°-60°	361.3	13.5
60°-70°	247.3	9.2
70°-80°	133.1	5.0
80°-90°	37.7	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°	934.8	34.9
0°-40°	1439.4	53.8
0°-60°	2259.7	84.4
0°-90°	2677.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2677.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1329	1344	1326	1319	1325	126
15°	1267	1254	1200	1167	1163	357
25°	1154	1107	1011	938	920	532
35°	1001	923	784	690	665	626
45°	824	719	561	464	446	635
55°	628	508	357	288	284	562
65°	426	305	205	182	181	421
75°	220	134	107	98	99	234
85°	50	34	31	29	29	59
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1344.5	1344.5	1344.5	1344.5	1344.5
2.5°	1334.6	1350.4	1338.5	1340.5	1342.5
5°	1328.6	1343.5	1325.7	1318.8	1324.7
7.5°	1318.8	1328.6	1300.9	1288.1	1294.0
10°	1305.9	1307.9	1271.3	1252.5	1255.4
12.5°	1288.1	1283.1	1238.6	1211.9	1213.9
15°	1267.3	1253.5	1200.0	1167.4	1163.4
17.5°	1243.6	1220.8	1157.5	1115.9	1108.0
20°	1216.9	1186.2	1112.0	1058.6	1049.7
22.5°	1187.2	1147.6	1062.5	999.2	986.3
25°	1154.5	1107.0	1011.1	937.9	920.1
27.5°	1118.9	1063.5	955.7	875.5	852.8
30°	1081.3	1018.0	899.3	813.2	789.5
32.5°	1042.7	971.5	841.9	750.9	726.2
35°	1001.2	923.0	784.5	689.6	664.8
37.5°	958.6	872.6	726.2	630.2	604.5
40°	915.1	822.1	669.8	570.8	550.1
42.5°	870.6	770.7	614.4	515.4	496.6
45°	824.1	719.2	560.9	464.0	446.2
47.5°	776.6	666.8	506.5	415.5	398.7
50°	726.2	614.4	455.1	368.0	350.2
52.5°	677.7	560.9	405.6	321.5	312.6
55°	628.2	508.5	357.1	287.9	283.9
57.5°	578.7	456.1	312.6	261.2	257.2
60°	528.3	404.6	267.1	233.5	229.5
62.5°	477.8	354.2	233.5	206.8	204.8
65°	426.4	304.7	204.8	182.0	181.0
67.5°	372.0	257.2	179.1	160.3	159.3
70°	320.5	209.7	153.3	138.5	138.5
72.5°	272.1	166.2	129.6	117.7	117.7
75°	219.6	133.6	106.8	97.9	98.9
77.5°	173.1	104.9	86.1	80.1	80.1
80°	128.6	78.2	66.3	61.3	62.3
82.5°	87.1	54.4	47.5	44.5	44.5
85°	49.5	33.6	30.7	28.7	28.7
87.5°	17.8	15.8	14.8	12.9	13.9
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	19.74	21.27	20.11	21.58	21.90	15.52	17.04	15.89	17.36	17.67
	3H	21.52	22.89	21.90	23.22	23.58	17.13	18.50	17.51	18.83	19.19
	4H	22.19	23.47	22.59	23.82	24.20	17.76	19.05	18.16	19.40	19.78
	6H	22.70	23.89	23.11	24.25	24.65	18.26	19.45	18.67	19.82	20.21
	8H	22.86	23.99	23.29	24.38	24.78	18.43	19.56	18.86	19.95	20.35
	12H	22.96	24.05	23.39	24.43	24.86	18.55	19.64	18.98	20.02	20.45
4H	2H	19.84	21.12	20.24	21.47	21.85	16.24	17.52	16.64	17.87	18.25
	3H	21.78	22.85	22.19	23.25	23.65	18.05	19.12	18.46	19.52	19.92
	4H	22.54	23.50	22.97	23.92	24.36	18.78	19.75	19.21	20.16	20.60
	6H	23.17	24.01	23.63	24.45	24.91	19.40	20.24	19.85	20.68	21.14
	8H	23.39	24.18	23.86	24.62	25.09	19.61	20.40	20.08	20.84	21.31
	12H	23.55	24.25	24.03	24.73	25.20	19.78	20.48	20.26	20.96	21.43
8H	4H	22.60	23.38	23.06	23.82	24.29	19.17	19.96	19.63	20.40	20.87
	6H	23.29	23.94	23.79	24.43	24.91	19.90	20.55	20.40	21.04	21.52
	8H	23.56	24.14	24.08	24.65	25.14	20.19	20.77	20.70	21.28	21.77
	12H	23.78	24.30	24.29	24.79	25.35	20.44	20.95	20.94	21.44	22.01
12H	4H	22.59	23.29	23.07	23.77	24.24	19.23	19.93	19.71	20.41	20.88
	6H	23.29	23.87	23.80	24.38	24.87	19.98	20.57	20.50	21.08	21.57
	8H	23.60	24.11	24.11	24.60	25.17	20.33	20.85	20.84	21.34	21.91