

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: P1056150

Luminaire Tested: S124R3DR-H350D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056150
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-H350D840-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, 80 CRI LEDS
Ballast/Driver: -

Summary

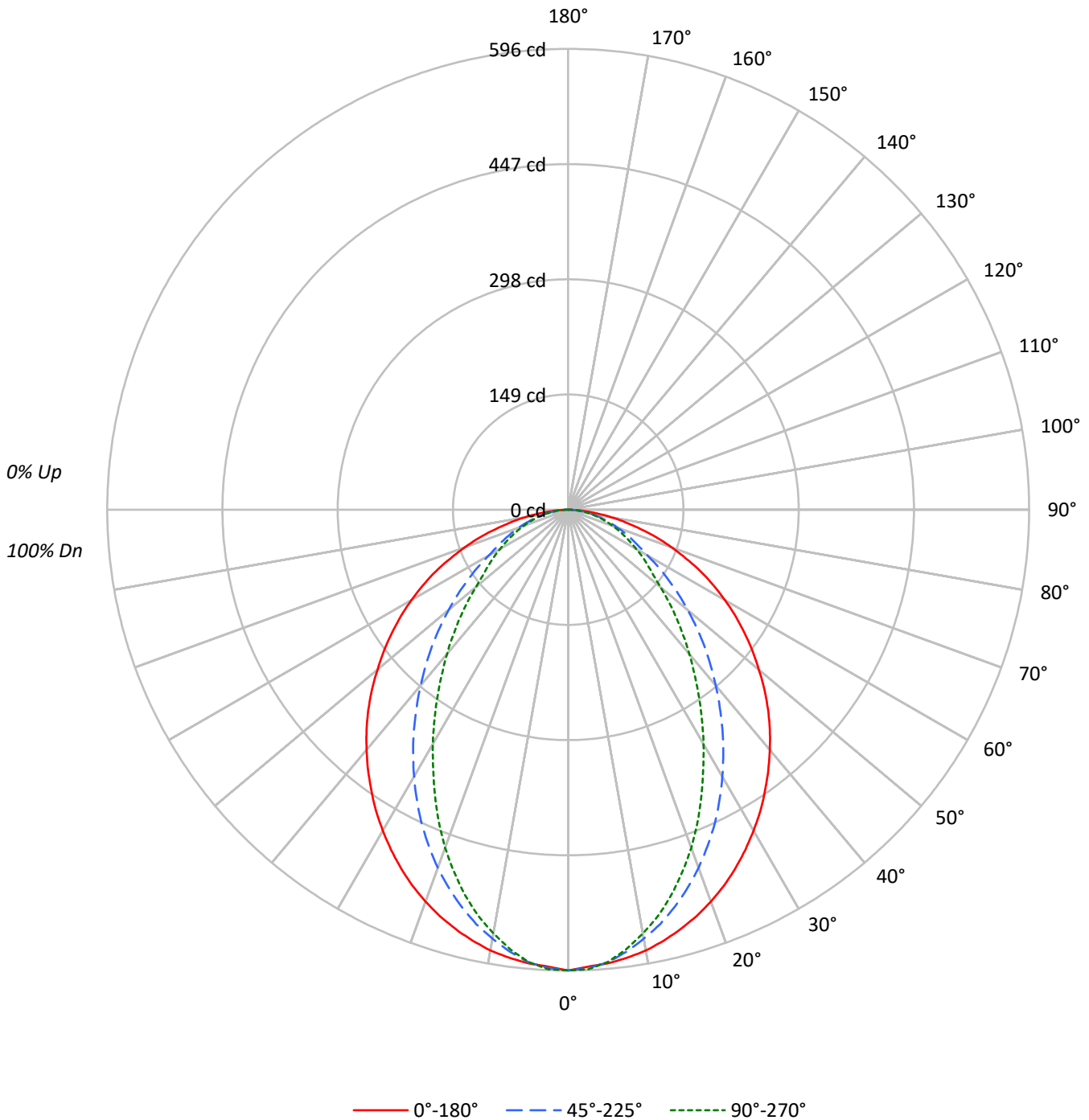
Lumens per Lamp: N/A
Luminaire Lumens: 1186.9 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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	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°	5269	5269	5269
5°	5227	5215	5211
10°	5196	5058	4995
15°	5141	4869	4719
20°	5074	4637	4377
25°	4992	4371	3978
30°	4893	4069	3572
35°	4789	3753	3181
40°	4681	3426	2814
45°	4568	3108	2473
50°	4426	2774	2135
55°	4291	2440	1939
60°	4140	2094	1798
65°	3954	1900	1678
70°	3673	1758	1587
75°	3324	1619	1496
80°	2902	1497	1405
85°	2222	1380	1288

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4568 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.5	4.7
10°-20°	150.5	12.7
20°-30°	208.4	17.6
30°-40°	223.6	18.8
40°-50°	203.4	17.1
50°-60°	160.2	13.5
60°-70°	109.6	9.2
70°-80°	59.0	5.0
80°-90°	16.7	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°	414.3	34.9
0°-40°	638.0	53.8
0°-60°	1001.5	84.4
0°-90°	1186.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1186.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	589	596	588	584	587	56
15°	562	556	532	517	516	158
25°	512	491	448	416	408	236
35°	444	409	348	306	295	278
45°	365	319	249	206	198	282
55°	278	225	158	128	126	249
65°	189	135	91	81	80	186
75°	97	59	47	43	44	104
85°	22	15	14	13	13	26
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	595.9	595.9	595.9	595.9	595.9
2.5°	591.5	598.5	593.3	594.1	595.0
5°	588.9	595.5	587.6	584.5	587.1
7.5°	584.5	588.9	576.6	570.9	573.5
10°	578.8	579.7	563.4	555.1	556.4
12.5°	570.9	568.7	549.0	537.1	538.0
15°	561.7	555.5	531.9	517.4	515.6
17.5°	551.2	541.1	513.0	494.6	491.1
20°	539.3	525.7	492.8	469.2	465.2
22.5°	526.2	508.6	470.9	442.9	437.2
25°	511.7	490.7	448.1	415.7	407.8
27.5°	495.9	471.4	423.6	388.1	378.0
30°	479.3	451.2	398.6	360.4	349.9
32.5°	462.2	430.6	373.1	332.8	321.8
35°	443.7	409.1	347.7	305.6	294.7
37.5°	424.9	386.7	321.8	279.3	267.9
40°	405.6	364.4	296.8	253.0	243.8
42.5°	385.9	341.6	272.3	228.4	220.1
45°	365.3	318.8	248.6	205.6	197.8
47.5°	344.2	295.5	224.5	184.2	176.7
50°	321.8	272.3	201.7	163.1	155.2
52.5°	300.4	248.6	179.8	142.5	138.6
55°	278.4	225.4	158.3	127.6	125.8
57.5°	256.5	202.1	138.6	115.8	114.0
60°	234.1	179.3	118.4	103.5	101.7
62.5°	211.8	157.0	103.5	91.6	90.8
65°	189.0	135.1	90.8	80.7	80.2
67.5°	164.9	114.0	79.4	71.0	70.6
70°	142.1	93.0	68.0	61.4	61.4
72.5°	120.6	73.7	57.4	52.2	52.2
75°	97.3	59.2	47.4	43.4	43.8
77.5°	76.7	46.5	38.1	35.5	35.5
80°	57.0	34.6	29.4	27.2	27.6
82.5°	38.6	24.1	21.0	19.7	19.7
85°	21.9	14.9	13.6	12.7	12.7
87.5°	7.9	7.0	6.6	5.7	6.1
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	16.91	18.44	17.28	18.75	19.07	12.69	14.22	13.06	14.53	14.85
	3H	18.69	20.06	19.07	20.39	20.75	14.30	15.67	14.68	16.00	16.36
	4H	19.36	20.65	19.76	21.00	21.37	14.94	16.22	15.34	16.57	16.95
	6H	19.87	21.06	20.28	21.43	21.82	15.43	16.62	15.85	16.99	17.38
	8H	20.03	21.17	20.46	21.56	21.96	15.60	16.74	16.03	17.13	17.53
	12H	20.13	21.22	20.56	21.60	22.03	15.73	16.81	16.16	17.19	17.62
4H	2H	17.01	18.30	17.41	18.64	19.02	13.41	14.70	13.81	15.05	15.43
	3H	18.96	20.03	19.37	20.42	20.83	15.22	16.29	15.63	16.69	17.09
	4H	19.71	20.67	20.14	21.09	21.53	15.96	16.92	16.39	17.34	17.77
	6H	20.35	21.18	20.80	21.63	22.09	16.57	17.41	17.03	17.85	18.31
	8H	20.56	21.35	21.03	21.79	22.26	16.79	17.57	17.25	18.02	18.48
	12H	20.72	21.42	21.20	21.90	22.37	16.95	17.66	17.44	18.13	18.60
8H	4H	19.77	20.55	20.23	21.00	21.46	16.34	17.13	16.81	17.57	18.04
	6H	20.47	21.12	20.96	21.61	22.08	17.08	17.73	17.57	18.22	18.69
	8H	20.73	21.32	21.25	21.83	22.31	17.36	17.95	17.88	18.46	18.94
	12H	20.95	21.47	21.46	21.96	22.52	17.61	18.12	18.12	18.62	19.18
12H	4H	19.76	20.46	20.24	20.94	21.41	16.40	17.10	16.88	17.58	18.05
	6H	20.46	21.04	20.97	21.55	22.04	17.16	17.74	17.67	18.25	18.74
	8H	20.77	21.28	21.28	21.78	22.34	17.51	18.02	18.02	18.51	19.08