

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1056165

Luminaire Tested: S124R3DR-H350D940-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056165
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-H350D940-X4F0-XX-UDD-FLL-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

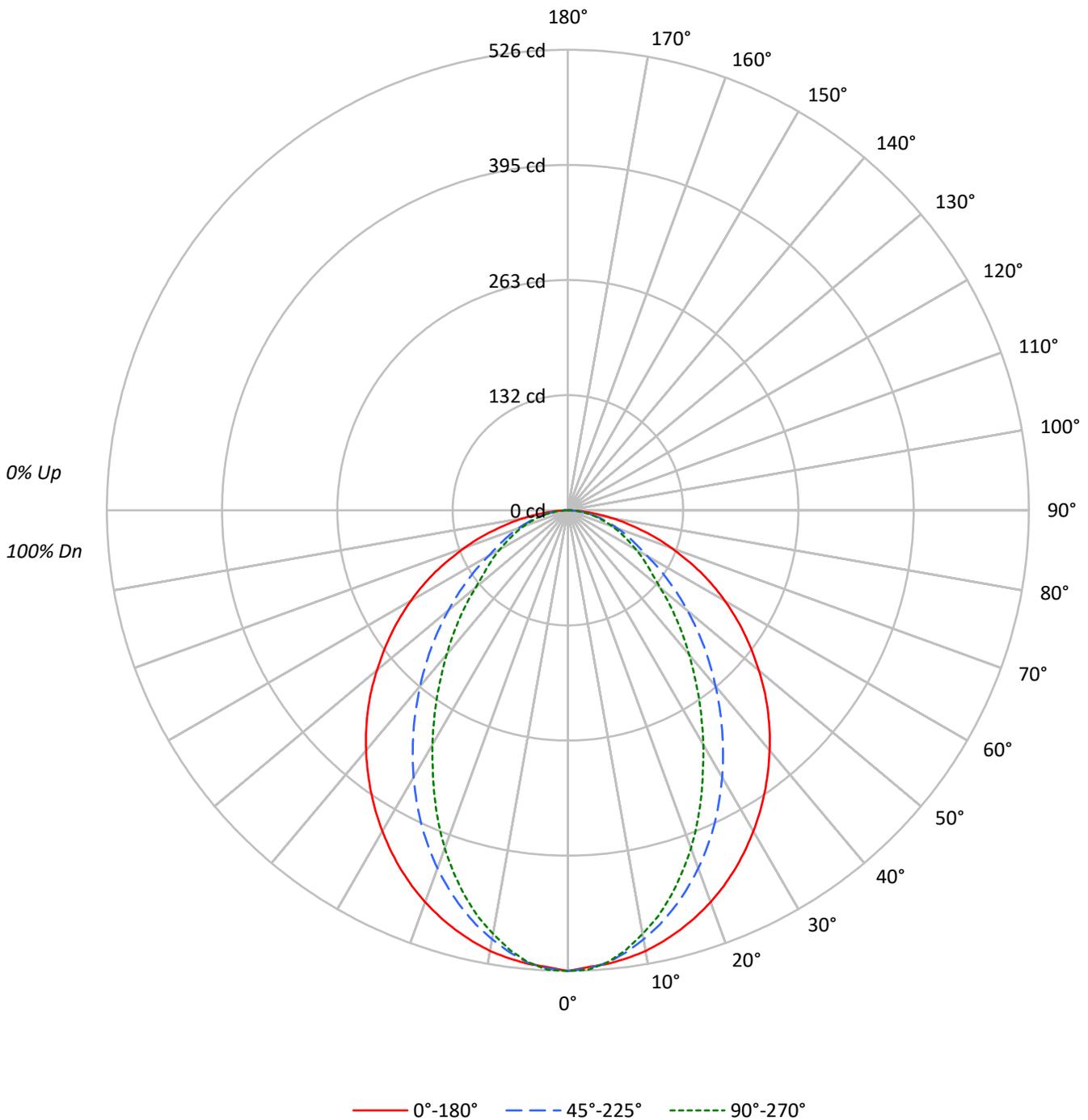
Lumens per Lamp: N/A
Luminaire Lumens: 1048.0 lumens
Efficiency: N/A
Efficacy: 89.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	4652	4652	4652
5°	4615	4604	4601
10°	4589	4466	4411
15°	4540	4298	4167
20°	4480	4095	3865
25°	4407	3860	3513
30°	4321	3593	3155
35°	4229	3314	2808
40°	4133	3025	2485
45°	4032	2745	2183
50°	3909	2450	1886
55°	3790	2155	1713
60°	3657	1848	1588
65°	3492	1676	1483
70°	3242	1551	1401
75°	2938	1428	1322
80°	2561	1319	1242
85°	1968	1217	1136

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4032 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.0	4.7
10°-20°	132.9	12.7
20°-30°	184.0	17.6
30°-40°	197.5	18.8
40°-50°	179.6	17.1
50°-60°	141.4	13.5
60°-70°	96.8	9.2
70°-80°	52.1	5.0
80°-90°	14.7	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°	365.8	34.9
0°-40°	563.3	53.8
0°-60°	884.3	84.4
0°-90°	1048.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1048.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	526	526	526	526	526	
5°	520	526	519	516	518	49
15°	496	490	470	457	455	140
25°	452	433	396	367	360	208
35°	392	361	307	270	260	245
45°	322	282	220	182	175	249
55°	246	199	140	113	111	220
65°	167	119	80	71	71	165
75°	86	52	42	38	39	92
85°	19	13	12	11	11	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	526.2	526.2	526.2	526.2	526.2
2.5°	522.3	528.5	523.8	524.6	525.4
5°	520.0	525.8	518.8	516.1	518.4
7.5°	516.1	520.0	509.1	504.1	506.4
10°	511.1	511.8	497.5	490.2	491.3
12.5°	504.1	502.2	484.7	474.3	475.1
15°	496.0	490.5	469.6	456.9	455.3
17.5°	486.7	477.8	453.0	436.7	433.6
20°	476.2	464.2	435.2	414.3	410.8
22.5°	464.6	449.1	415.8	391.0	386.0
25°	451.8	433.2	395.7	367.0	360.1
27.5°	437.9	416.2	374.0	342.6	333.7
30°	423.2	398.4	351.9	318.3	309.0
32.5°	408.1	380.2	329.5	293.9	284.2
35°	391.8	361.2	307.0	269.9	260.2
37.5°	375.2	341.5	284.2	246.6	236.6
40°	358.1	321.7	262.1	223.4	215.3
42.5°	340.7	301.6	240.4	201.7	194.4
45°	322.5	281.5	219.5	181.6	174.6
47.5°	303.9	261.0	198.2	162.6	156.0
50°	284.2	240.4	178.1	144.0	137.1
52.5°	265.2	219.5	158.7	125.8	122.3
55°	245.9	199.0	139.8	112.7	111.1
57.5°	226.5	178.5	122.3	102.2	100.7
60°	206.8	158.4	104.5	91.4	89.8
62.5°	187.0	138.6	91.4	80.9	80.1
65°	166.9	119.2	80.1	71.2	70.9
67.5°	145.6	100.7	70.1	62.7	62.3
70°	125.4	82.1	60.0	54.2	54.2
72.5°	106.5	65.0	50.7	46.1	46.1
75°	86.0	52.3	41.8	38.3	38.7
77.5°	67.8	41.0	33.7	31.4	31.4
80°	50.3	30.6	25.9	24.0	24.4
82.5°	34.1	21.3	18.6	17.4	17.4
85°	19.4	13.2	12.0	11.2	11.2
87.5°	7.0	6.2	5.8	5.0	5.4
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	16.48	18.01	16.85	18.32	18.64	12.26	13.79	12.63	14.10	14.41
	3H	18.26	19.63	18.64	19.96	20.32	13.87	15.24	14.25	15.57	15.93
	4H	18.93	20.22	19.33	20.57	20.94	14.50	15.79	14.90	16.14	16.52
	6H	19.44	20.63	19.85	20.99	21.39	15.00	16.19	15.41	16.56	16.95
	8H	19.60	20.74	20.03	21.12	21.53	15.17	16.31	15.60	16.69	17.10
	12H	19.70	20.79	20.13	21.17	21.60	15.29	16.38	15.72	16.76	17.19
4H	2H	16.58	17.86	16.98	18.21	18.59	12.98	14.26	13.38	14.61	14.99
	3H	18.52	19.59	18.93	19.99	20.39	14.79	15.86	15.20	16.25	16.66
	4H	19.28	20.24	19.71	20.66	21.10	15.52	16.49	15.95	16.90	17.34
	6H	19.91	20.75	20.37	21.20	21.66	16.14	16.98	16.60	17.42	17.88
	8H	20.13	20.92	20.60	21.36	21.83	16.35	17.14	16.82	17.58	18.05
	12H	20.29	20.99	20.77	21.47	21.94	16.52	17.22	17.00	17.70	18.17
8H	4H	19.34	20.12	19.80	20.57	21.03	15.91	16.70	16.37	17.14	17.61
	6H	20.04	20.68	20.53	21.18	21.65	16.64	17.29	17.14	17.78	18.26
	8H	20.30	20.89	20.82	21.40	21.88	16.93	17.51	17.44	18.02	18.51
	12H	20.52	21.04	21.03	21.53	22.09	17.18	17.69	17.68	18.18	18.75
12H	4H	19.33	20.03	19.81	20.51	20.98	15.97	16.67	16.45	17.15	17.62
	6H	20.03	20.61	20.54	21.12	21.61	16.73	17.31	17.24	17.82	18.31
	8H	20.34	20.85	20.85	21.34	21.91	17.07	17.59	17.58	18.08	18.65