

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: P1056012

Luminaire Tested: S124R3DR-S350D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056012
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-S350D835-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

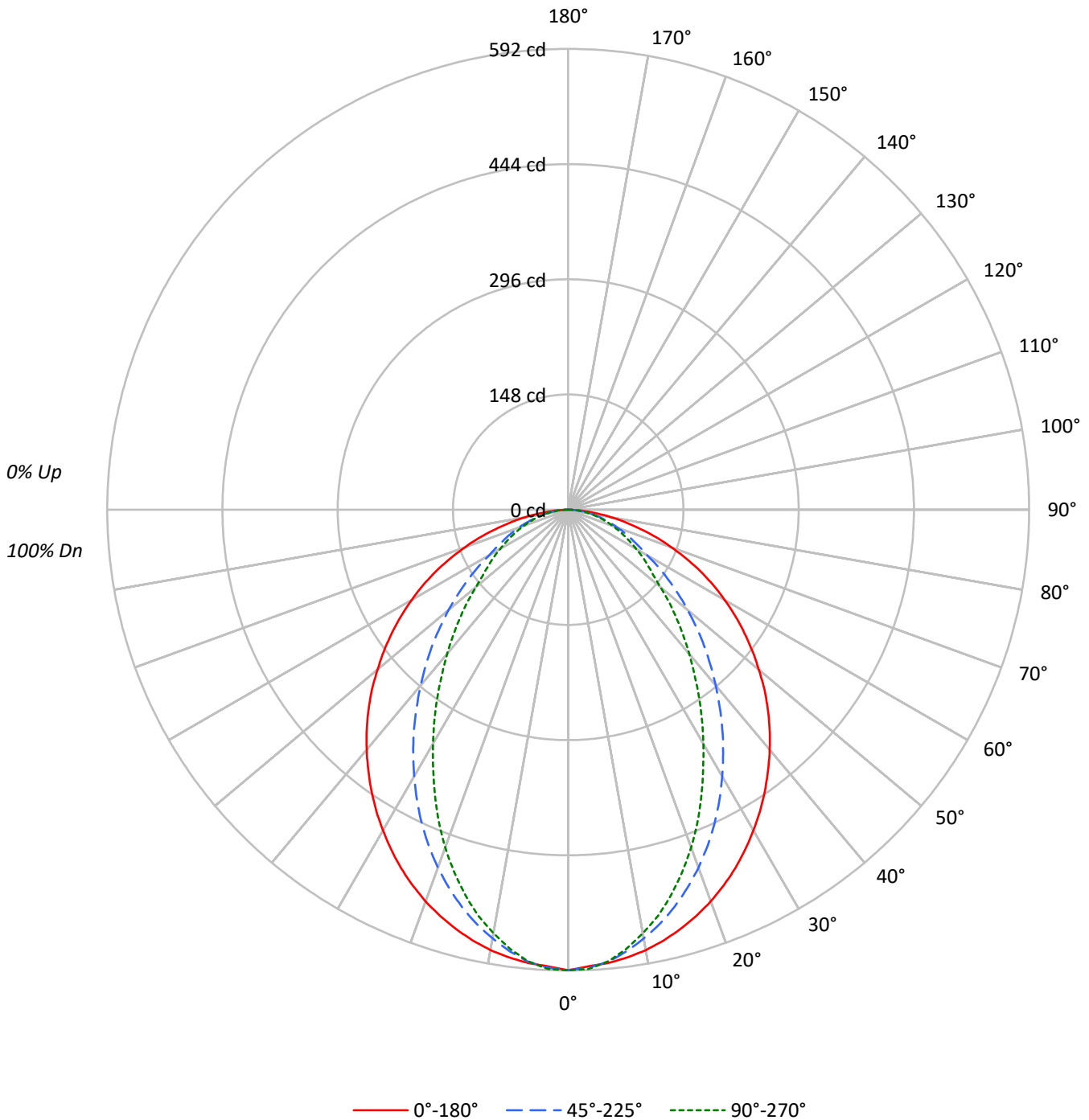
Lumens per Lamp: N/A
Luminaire Lumens: 1178.2 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	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	75	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°	5230	5230	5230
5°	5188	5176	5172
10°	5158	5021	4958
15°	5104	4833	4686
20°	5037	4603	4345
25°	4955	4339	3949
30°	4856	4040	3546
35°	4754	3726	3157
40°	4647	3401	2793
45°	4534	3086	2454
50°	4395	2754	2120
55°	4261	2422	1925
60°	4109	2078	1786
65°	3925	1885	1667
70°	3645	1745	1574
75°	3300	1606	1486
80°	2882	1487	1395
85°	2211	1369	1278

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4534 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.1	4.7
10°-20°	149.4	12.7
20°-30°	206.8	17.6
30°-40°	222.0	18.8
40°-50°	201.9	17.1
50°-60°	159.0	13.5
60°-70°	108.8	9.2
70°-80°	58.6	5.0
80°-90°	16.6	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°	411.3	34.9
0°-40°	633.3	53.8
0°-60°	994.2	84.4
0°-90°	1178.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1178.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	592	592	592	592	592	
5°	585	591	583	580	583	55
15°	558	552	528	514	512	157
25°	508	487	445	413	405	234
35°	440	406	345	303	292	276
45°	363	316	247	204	196	280
55°	276	224	157	127	125	247
65°	188	134	90	80	80	185
75°	97	59	47	43	44	103
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°	591.5	591.5	591.5	591.5	591.5
2.5°	587.2	594.1	588.9	589.8	590.6
5°	584.6	591.1	583.2	580.2	582.8
7.5°	580.2	584.6	572.4	566.7	569.3
10°	574.5	575.4	559.3	551.0	552.3
12.5°	566.7	564.5	544.9	533.2	534.1
15°	557.6	551.5	528.0	513.6	511.9
17.5°	547.1	537.1	509.3	491.0	487.5
20°	535.4	521.9	489.2	465.7	461.8
22.5°	522.3	504.9	467.5	439.6	434.0
25°	507.9	487.1	444.8	412.6	404.8
27.5°	492.3	467.9	420.5	385.2	375.2
30°	475.7	447.9	395.7	357.8	347.3
32.5°	458.8	427.4	370.4	330.4	319.5
35°	440.5	406.1	345.2	303.4	292.5
37.5°	421.8	383.9	319.5	277.3	265.9
40°	402.6	361.7	294.7	251.1	242.0
42.5°	383.0	339.1	270.3	226.8	218.5
45°	362.6	316.4	246.8	204.1	196.3
47.5°	341.7	293.4	222.9	182.8	175.4
50°	319.5	270.3	200.2	161.9	154.1
52.5°	298.2	246.8	178.5	141.5	137.5
55°	276.4	223.7	157.1	126.7	124.9
57.5°	254.6	200.7	137.5	114.9	113.2
60°	232.4	178.0	117.5	102.7	101.0
62.5°	210.2	155.8	102.7	91.0	90.1
65°	187.6	134.1	90.1	80.1	79.7
67.5°	163.7	113.2	78.8	70.5	70.1
70°	141.0	92.3	67.5	60.9	60.9
72.5°	119.7	73.1	57.0	51.8	51.8
75°	96.6	58.8	47.0	43.1	43.5
77.5°	76.2	46.1	37.9	35.3	35.3
80°	56.6	34.4	29.2	27.0	27.4
82.5°	38.3	23.9	20.9	19.6	19.6
85°	21.8	14.8	13.5	12.6	12.6
87.5°	7.8	7.0	6.5	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	16.89	18.42	17.26	18.73	19.04	12.67	14.19	13.03	14.51	14.82
	3H	18.67	20.04	19.04	20.36	20.73	14.28	15.65	14.66	15.98	16.34
	4H	19.34	20.62	19.74	20.97	21.35	14.91	16.19	15.31	16.54	16.92
	6H	19.85	21.04	20.26	21.40	21.79	15.41	16.60	15.82	16.96	17.36
	8H	20.01	21.14	20.44	21.53	21.93	15.58	16.71	16.01	17.10	17.50
	12H	20.11	21.19	20.54	21.58	22.00	15.70	16.79	16.13	17.17	17.60
4H	2H	16.99	18.27	17.39	18.62	19.00	13.38	14.67	13.78	15.02	15.40
	3H	18.93	20.00	19.34	20.40	20.80	15.19	16.26	15.60	16.66	17.06
	4H	19.69	20.65	20.12	21.07	21.50	15.93	16.89	16.36	17.31	17.75
	6H	20.32	21.16	20.78	21.60	22.06	16.55	17.39	17.00	17.83	18.29
	8H	20.54	21.32	21.00	21.77	22.24	16.76	17.55	17.23	17.99	18.46
	12H	20.70	21.40	21.18	21.87	22.35	16.93	17.63	17.41	18.11	18.58
8H	4H	19.74	20.53	20.21	20.97	21.44	16.32	17.10	16.78	17.55	18.01
	6H	20.44	21.09	20.94	21.58	22.06	17.05	17.70	17.55	18.19	18.67
	8H	20.71	21.29	21.22	21.80	22.29	17.34	17.92	17.85	18.43	18.92
	12H	20.93	21.44	21.44	21.93	22.50	17.58	18.10	18.09	18.59	19.16
12H	4H	19.73	20.44	20.22	20.91	21.39	16.37	17.08	16.86	17.55	18.02
	6H	20.44	21.02	20.95	21.53	22.02	17.13	17.72	17.65	18.23	18.71
	8H	20.74	21.26	21.25	21.75	22.32	17.48	18.00	17.99	18.49	19.05