

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: P1056147

Luminaire Tested: S124R3DR-H350D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056147
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-H350D835-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, 80 CRI LEDS
Ballast/Driver: -

Summary

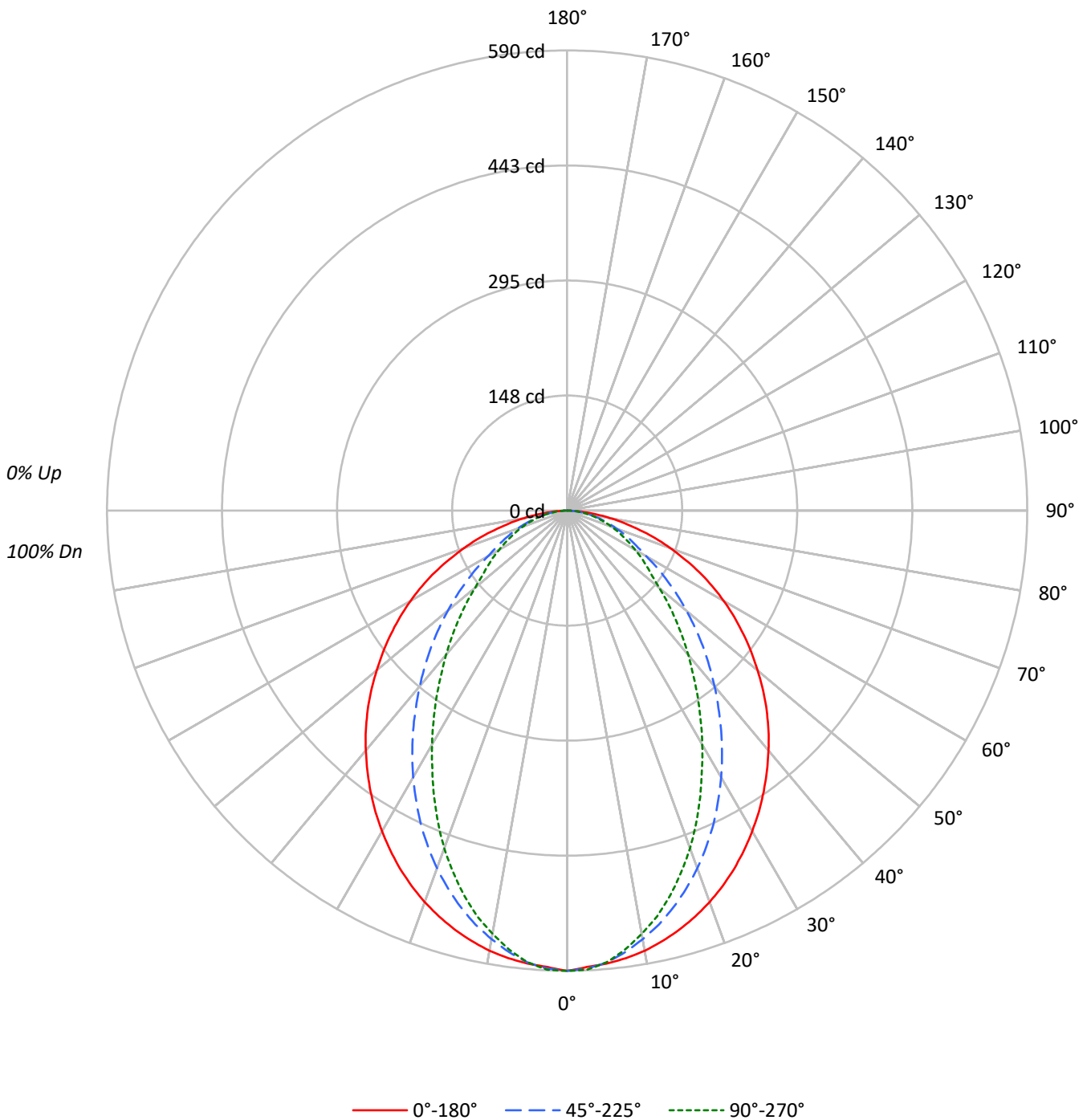
Lumens per Lamp: N/A
Luminaire Lumens: 1175.3 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (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	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°	5217	5217	5217
5°	5175	5164	5160
10°	5145	5009	4947
15°	5091	4821	4674
20°	5025	4591	4335
25°	4943	4328	3939
30°	4845	4030	3537
35°	4743	3716	3149
40°	4635	3392	2786
45°	4523	3078	2448
50°	4384	2747	2114
55°	4250	2415	1921
60°	4101	2072	1781
65°	3914	1881	1663
70°	3637	1740	1572
75°	3293	1602	1483
80°	2872	1482	1395
85°	2201	1369	1278

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4523 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.9	4.7
10°-20°	149.0	12.7
20°-30°	206.3	17.6
30°-40°	221.5	18.8
40°-50°	201.4	17.1
50°-60°	158.6	13.5
60°-70°	108.5	9.2
70°-80°	58.4	5.0
80°-90°	16.5	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°	410.3	34.9
0°-40°	631.7	53.8
0°-60°	991.7	84.4
0°-90°	1175.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1175.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	590	590	590	590	590	
5°	583	590	582	579	581	55
15°	556	550	527	512	511	157
25°	507	486	444	412	404	233
35°	439	405	344	303	292	275
45°	362	316	246	204	196	279
55°	276	223	157	126	125	247
65°	187	134	90	80	80	185
75°	96	59	47	43	43	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°	590.1	590.1	590.1	590.1	590.1
2.5°	585.7	592.7	587.5	588.3	589.2
5°	583.1	589.6	581.8	578.8	581.4
7.5°	578.8	583.1	571.0	565.3	567.9
10°	573.1	574.0	557.9	549.7	551.0
12.5°	565.3	563.1	543.6	531.9	532.8
15°	556.2	550.1	526.7	512.3	510.6
17.5°	545.8	535.8	508.0	489.8	486.3
20°	534.1	520.6	488.0	464.6	460.7
22.5°	521.0	503.7	466.3	438.5	432.9
25°	506.7	485.9	443.7	411.6	403.8
27.5°	491.1	466.8	419.4	384.3	374.3
30°	474.6	446.8	394.7	356.9	346.5
32.5°	457.6	426.4	369.5	329.6	318.7
35°	439.4	405.1	344.3	302.6	291.8
37.5°	420.7	383.0	318.7	276.6	265.3
40°	401.6	360.8	293.9	250.5	241.4
42.5°	382.1	338.2	269.6	226.2	218.0
45°	361.7	315.7	246.2	203.6	195.8
47.5°	340.8	292.6	222.3	182.4	175.0
50°	318.7	269.6	199.7	161.5	153.7
52.5°	297.4	246.2	178.0	141.1	137.2
55°	275.7	223.2	156.7	126.4	124.6
57.5°	254.0	200.2	137.2	114.6	112.9
60°	231.9	177.6	117.2	102.5	100.7
62.5°	209.7	155.4	102.5	90.7	89.9
65°	187.1	133.7	89.9	79.9	79.5
67.5°	163.3	112.9	78.6	70.3	69.9
70°	140.7	92.0	67.3	60.8	60.8
72.5°	119.4	72.9	56.9	51.7	51.7
75°	96.4	58.6	46.9	43.0	43.4
77.5°	76.0	46.0	37.8	35.2	35.2
80°	56.4	34.3	29.1	26.9	27.4
82.5°	38.2	23.9	20.8	19.5	19.5
85°	21.7	14.8	13.5	12.6	12.6
87.5°	7.8	6.9	6.5	5.6	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	16.88	18.41	17.25	18.72	19.03	12.66	14.18	13.02	14.50	14.81
	3H	18.66	20.03	19.03	20.35	20.72	14.27	15.64	14.65	15.97	16.33
	4H	19.33	20.61	19.73	20.96	21.34	14.90	16.19	15.30	16.54	16.91
	6H	19.84	21.03	20.25	21.39	21.78	15.40	16.59	15.81	16.96	17.35
	8H	20.00	21.13	20.43	21.52	21.92	15.57	16.70	16.00	17.09	17.49
	12H	20.10	21.18	20.53	21.57	21.99	15.69	16.78	16.12	17.16	17.59
4H	2H	16.98	18.26	17.38	18.61	18.99	13.38	14.66	13.78	15.01	15.39
	3H	18.92	19.99	19.33	20.39	20.79	15.18	16.25	15.59	16.65	17.05
	4H	19.68	20.64	20.11	21.06	21.49	15.92	16.89	16.35	17.30	17.74
	6H	20.31	21.15	20.77	21.59	22.05	16.54	17.38	17.00	17.82	18.28
	8H	20.53	21.32	20.99	21.76	22.23	16.75	17.54	17.22	17.98	18.45
	12H	20.69	21.39	21.17	21.87	22.34	16.92	17.62	17.40	18.10	18.57
8H	4H	19.73	20.52	20.20	20.96	21.43	16.31	17.10	16.77	17.54	18.01
	6H	20.43	21.08	20.93	21.57	22.05	17.04	17.69	17.54	18.18	18.66
	8H	20.70	21.28	21.21	21.79	22.28	17.33	17.91	17.84	18.42	18.91
	12H	20.92	21.43	21.43	21.93	22.49	17.58	18.09	18.08	18.58	19.15
12H	4H	19.73	20.43	20.21	20.91	21.38	16.37	17.07	16.85	17.55	18.02
	6H	20.43	21.01	20.94	21.52	22.01	17.13	17.71	17.64	18.22	18.71
	8H	20.73	21.25	21.24	21.74	22.31	17.47	17.99	17.98	18.48	19.04