

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: P1056205

Luminaire Tested: S124R3DR-H795D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056205
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H795D850-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

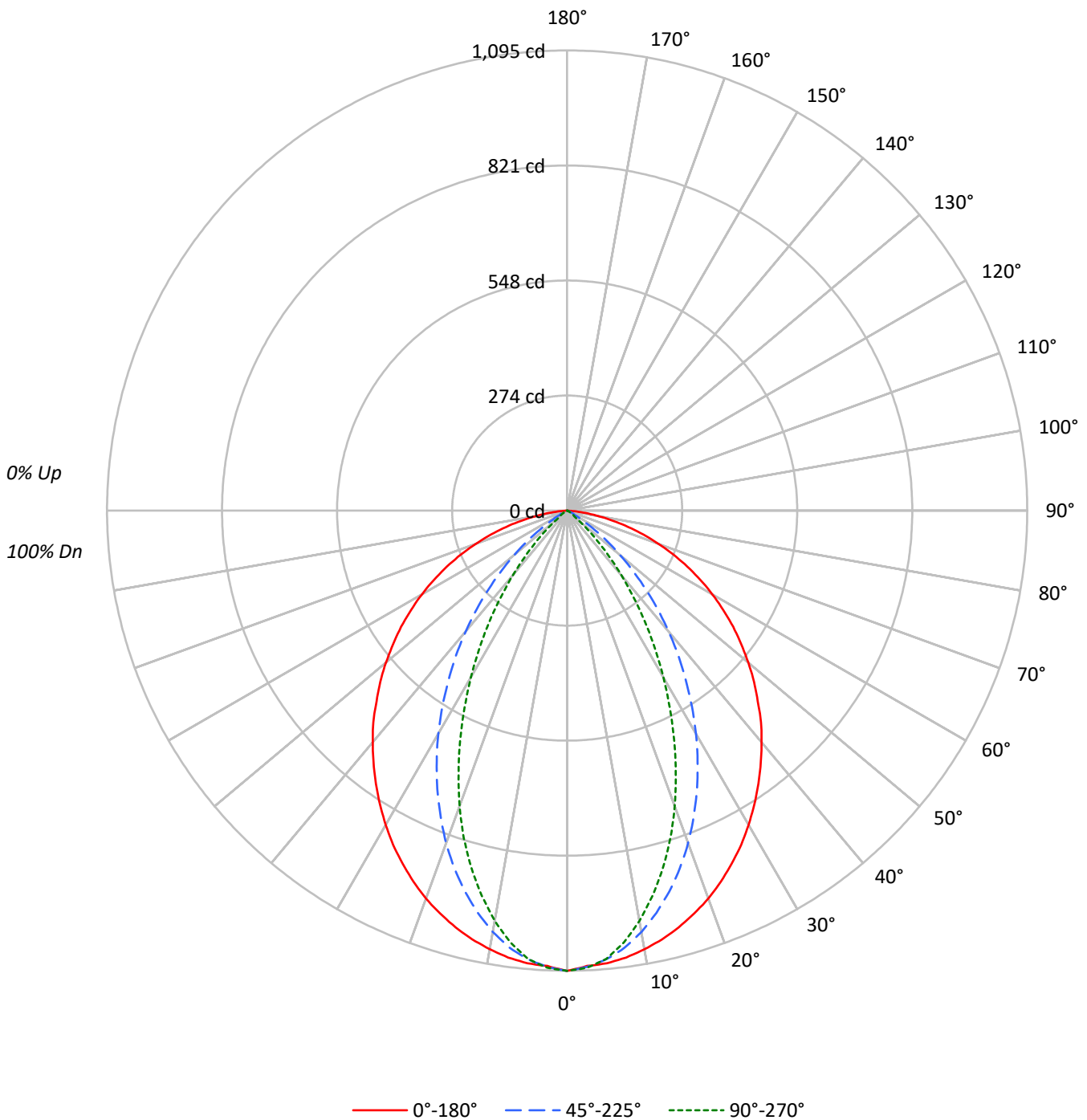
Lumens per Lamp: N/A
Luminaire Lumens: 1531.0 lumens
Efficiency: N/A
Efficacy: 64.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9685	9685	9685
5°	9598	9512	9503
10°	9516	9140	8899
15°	9398	8591	8060
20°	9245	7922	7042
25°	9041	7134	5878
30°	8815	6260	4671
35°	8566	5309	3478
40°	8304	4326	2318
45°	8016	3303	1275
50°	7740	2260	355
55°	7433	1225	231
60°	7064	380	133
65°	6605	247	67
70°	5969	111	28
75°	5134	38	0
80°	3880	0	0
85°	1633	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8016 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	6.6
10°-20°	265.3	17.3
20°-30°	342.8	22.4
30°-40°	327.7	21.4
40°-50°	245.0	16.0
50°-60°	145.8	9.5
60°-70°	74.0	4.8
70°-80°	25.8	1.7
80°-90°	3.5	0.2
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°	709.2	46.3
0°-40°	1036.8	67.7
0°-60°	1427.7	93.3
0°-90°	1531.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1531.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1095	1095	1095	1095	1095	
5°	1081	1090	1072	1066	1071	103
15°	1027	1005	939	895	881	289
25°	927	862	731	635	602	427
35°	794	684	492	366	322	496
45°	641	492	264	141	102	496
55°	482	300	80	18	15	430
65°	316	121	12	4	3	312
75°	150	16	1	1	0	160
85°	16	0	0	0	0	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1095.4	1095.4	1095.4	1095.4	1095.4
2.5°	1084.7	1097.5	1086.8	1087.9	1089.0
5°	1081.4	1090.0	1071.8	1066.4	1070.7
7.5°	1072.8	1076.1	1049.2	1035.3	1036.3
10°	1060.0	1056.7	1018.1	994.5	991.2
12.5°	1044.9	1034.2	980.5	946.1	938.6
15°	1026.7	1005.2	938.6	894.6	880.6
17.5°	1005.2	974.0	892.4	834.4	817.3
20°	982.6	939.7	842.0	770.0	748.5
22.5°	955.8	901.0	787.2	702.3	675.5
25°	926.8	862.4	731.3	634.7	602.5
27.5°	896.7	820.5	672.3	566.0	528.4
30°	863.4	776.4	613.2	496.2	457.5
32.5°	829.1	731.3	552.0	431.7	388.8
35°	793.6	684.1	491.9	366.2	322.2
37.5°	757.1	636.8	433.9	303.9	258.8
40°	719.5	588.5	374.8	244.9	200.8
42.5°	683.0	540.2	319.0	189.0	148.2
45°	641.1	491.9	264.2	140.7	102.0
47.5°	603.5	444.6	211.6	95.6	60.1
50°	562.7	394.1	164.3	55.8	25.8
52.5°	521.9	346.9	120.3	24.7	19.3
55°	482.2	299.6	79.5	18.3	15.0
57.5°	440.3	252.4	43.0	14.0	10.7
60°	399.5	206.2	21.5	10.7	7.5
62.5°	357.6	162.2	17.2	6.4	4.3
65°	315.7	121.4	11.8	4.3	3.2
67.5°	273.9	82.7	7.5	2.1	1.1
70°	230.9	50.5	4.3	1.1	1.1
72.5°	190.1	25.8	2.1	1.1	1.1
75°	150.3	16.1	1.1	1.1	0.0
77.5°	111.7	8.6	1.1	1.1	0.0
80°	76.2	3.2	0.0	0.0	0.0
82.5°	44.0	1.1	0.0	0.0	0.0
85°	16.1	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	18.34	19.67	18.71	19.99	20.30	0.00	0.00	0.00	0.00	0.00
	3H	19.89	21.06	20.27	21.39	21.76	0.00	0.00	0.00	0.00	0.00
	4H	20.48	21.58	20.88	21.93	22.31	0.00	0.00	0.00	0.00	0.00
	6H	20.90	21.90	21.31	22.27	22.67	0.00	0.00	0.00	0.00	0.00
	8H	21.00	21.95	21.43	22.34	22.74	0.00	0.00	0.00	0.00	0.00
	12H	21.02	21.93	21.45	22.31	22.74	0.00	0.00	0.00	0.00	0.00
4H	2H	18.12	19.22	18.52	19.57	19.95	0.00	0.00	0.00	0.00	0.00
	3H	19.69	20.58	20.10	20.98	21.39	0.00	0.00	0.00	0.00	0.00
	4H	20.27	21.07	20.70	21.49	21.93	0.00	0.00	0.00	0.00	0.00
	6H	20.73	21.42	21.19	21.86	22.33	0.00	0.00	0.00	0.00	0.00
	8H	20.85	21.49	21.32	21.94	22.41	0.00	0.00	0.00	0.00	0.00
	12H	20.89	21.45	21.37	21.94	22.41	0.00	0.00	0.00	0.00	0.00
8H	4H	20.13	20.77	20.60	21.22	21.69	0.00	0.29	0.12	0.73	1.20
	6H	20.57	21.09	21.08	21.59	22.07	0.00	0.08	0.06	0.57	1.06
	8H	20.69	21.16	21.21	21.67	22.17	0.00	0.00	0.02	0.48	0.97
	12H	20.74	21.15	21.25	21.65	22.22	0.00	0.00	0.00	0.36	0.93
12H	4H	20.09	20.65	20.57	21.14	21.61	0.06	0.62	0.54	1.11	1.58
	6H	20.51	20.98	21.03	21.49	21.99	0.00	0.42	0.47	0.93	1.43
	8H	20.65	21.06	21.16	21.55	22.12	0.00	0.32	0.42	0.81	1.39