

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: P1056043

Luminaire Tested: S124R3DR-S575D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056043
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-S575D850-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

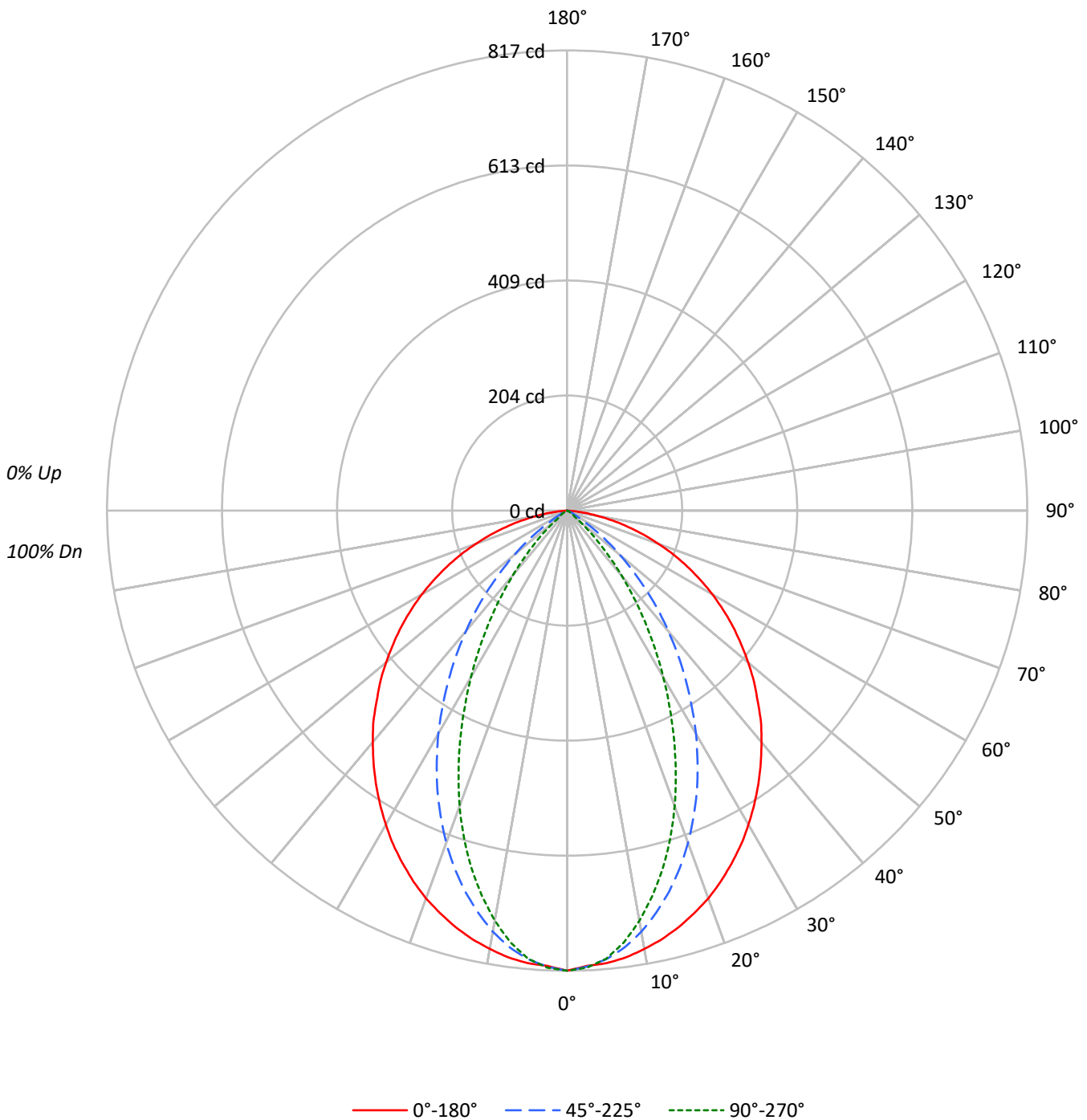
Lumens per Lamp: N/A
Luminaire Lumens: 1141.7 lumens
Efficiency: N/A
Efficacy: 59.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
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	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°	7223	7223	7223
5°	7158	7094	7087
10°	7096	6816	6636
15°	7008	6406	6011
20°	6895	5908	5252
25°	6742	5321	4383
30°	6574	4669	3483
35°	6387	3959	2594
40°	6193	3226	1729
45°	5978	2463	952
50°	5771	1685	264
55°	5543	914	173
60°	5268	283	99
65°	4927	184	50
70°	4451	83	21
75°	3829	27	0
80°	2897	0	0
85°	1217	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5978 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.4	6.6
10°-20°	197.8	17.3
20°-30°	255.7	22.4
30°-40°	244.3	21.4
40°-50°	182.7	16.0
50°-60°	108.7	9.5
60°-70°	55.2	4.8
70°-80°	19.2	1.7
80°-90°	2.6	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°	528.8	46.3
0°-40°	773.2	67.7
0°-60°	1064.7	93.3
0°-90°	1141.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1141.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	817	817	817	817	817	
5°	806	813	799	795	798	76
15°	766	750	700	667	657	216
25°	691	643	545	473	449	318
35°	592	510	367	273	240	370
45°	478	367	197	105	76	370
55°	360	223	59	14	11	321
65°	236	90	9	3	2	233
75°	112	12	1	1	0	119
85°	12	0	0	0	0	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	816.9	816.9	816.9	816.9	816.9
2.5°	808.9	818.5	810.5	811.3	812.1
5°	806.5	812.9	799.3	795.3	798.5
7.5°	800.1	802.5	782.4	772.0	772.8
10°	790.4	788.0	759.2	741.6	739.2
12.5°	779.2	771.2	731.2	705.6	699.9
15°	765.6	749.6	699.9	667.1	656.7
17.5°	749.6	726.4	665.5	622.3	609.5
20°	732.8	700.7	627.9	574.2	558.2
22.5°	712.8	671.9	587.0	523.8	503.7
25°	691.1	643.1	545.4	473.3	449.3
27.5°	668.7	611.9	501.3	422.1	394.0
30°	643.9	579.0	457.3	370.0	341.2
32.5°	618.3	545.4	411.6	321.9	289.9
35°	591.8	510.1	366.8	273.1	240.3
37.5°	564.6	474.9	323.5	226.6	193.0
40°	536.6	438.9	279.5	182.6	149.8
42.5°	509.3	402.8	237.9	141.0	110.5
45°	478.1	366.8	197.0	104.9	76.1
47.5°	450.1	331.6	157.8	71.3	44.8
50°	419.6	293.9	122.5	41.6	19.2
52.5°	389.2	258.7	89.7	18.4	14.4
55°	359.6	223.4	59.3	13.6	11.2
57.5°	328.4	188.2	32.0	10.4	8.0
60°	297.9	153.8	16.0	8.0	5.6
62.5°	266.7	120.9	12.8	4.8	3.2
65°	235.5	90.5	8.8	3.2	2.4
67.5°	204.2	61.7	5.6	1.6	0.8
70°	172.2	37.6	3.2	0.8	0.8
72.5°	141.8	19.2	1.6	0.8	0.8
75°	112.1	12.0	0.8	0.8	0.0
77.5°	83.3	6.4	0.8	0.8	0.0
80°	56.9	2.4	0.0	0.0	0.0
82.5°	32.8	0.8	0.0	0.0	0.0
85°	12.0	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	17.32	18.65	17.69	18.97	19.28	0.00	0.00	0.00	0.00	0.00
	3H	18.87	20.04	19.25	20.37	20.74	0.00	0.00	0.00	0.00	0.00
	4H	19.46	20.56	19.86	20.91	21.29	0.00	0.00	0.00	0.00	0.00
	6H	19.88	20.88	20.29	21.25	21.65	0.00	0.00	0.00	0.00	0.00
	8H	19.98	20.93	20.41	21.32	21.73	0.00	0.00	0.00	0.00	0.00
	12H	20.00	20.91	20.43	21.29	21.72	0.00	0.00	0.00	0.00	0.00
4H	2H	17.10	18.20	17.51	18.55	18.93	0.00	0.00	0.00	0.00	0.00
	3H	18.67	19.56	19.08	19.96	20.37	0.00	0.00	0.00	0.00	0.00
	4H	19.25	20.05	19.68	20.47	20.91	0.00	0.00	0.00	0.00	0.00
	6H	19.71	20.40	20.17	20.84	21.31	0.00	0.00	0.00	0.00	0.00
	8H	19.83	20.47	20.30	20.92	21.39	0.00	0.00	0.00	0.00	0.00
	12H	19.87	20.43	20.36	20.92	21.39	0.00	0.00	0.00	0.00	0.00
8H	4H	19.11	19.75	19.58	20.20	20.67	0.00	0.00	0.00	0.00	0.17
	6H	19.55	20.08	20.06	20.57	21.05	0.00	0.00	0.00	0.00	0.02
	8H	19.67	20.14	20.19	20.65	21.15	0.00	0.00	0.00	0.00	0.00
	12H	19.72	20.13	20.23	20.63	21.20	0.00	0.00	0.00	0.00	0.00
12H	4H	19.07	19.63	19.55	20.12	20.59	0.00	0.00	0.00	0.07	0.55
	6H	19.49	19.96	20.01	20.48	20.97	0.00	0.00	0.00	0.00	0.39
	8H	19.63	20.04	20.14	20.53	21.11	0.00	0.00	0.00	0.00	0.35