

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: P1056204

Luminaire Tested: S124R3DR-H795D840-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056204  
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-H795D840-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, 80 CRI LEDS  
Ballast/Driver: -

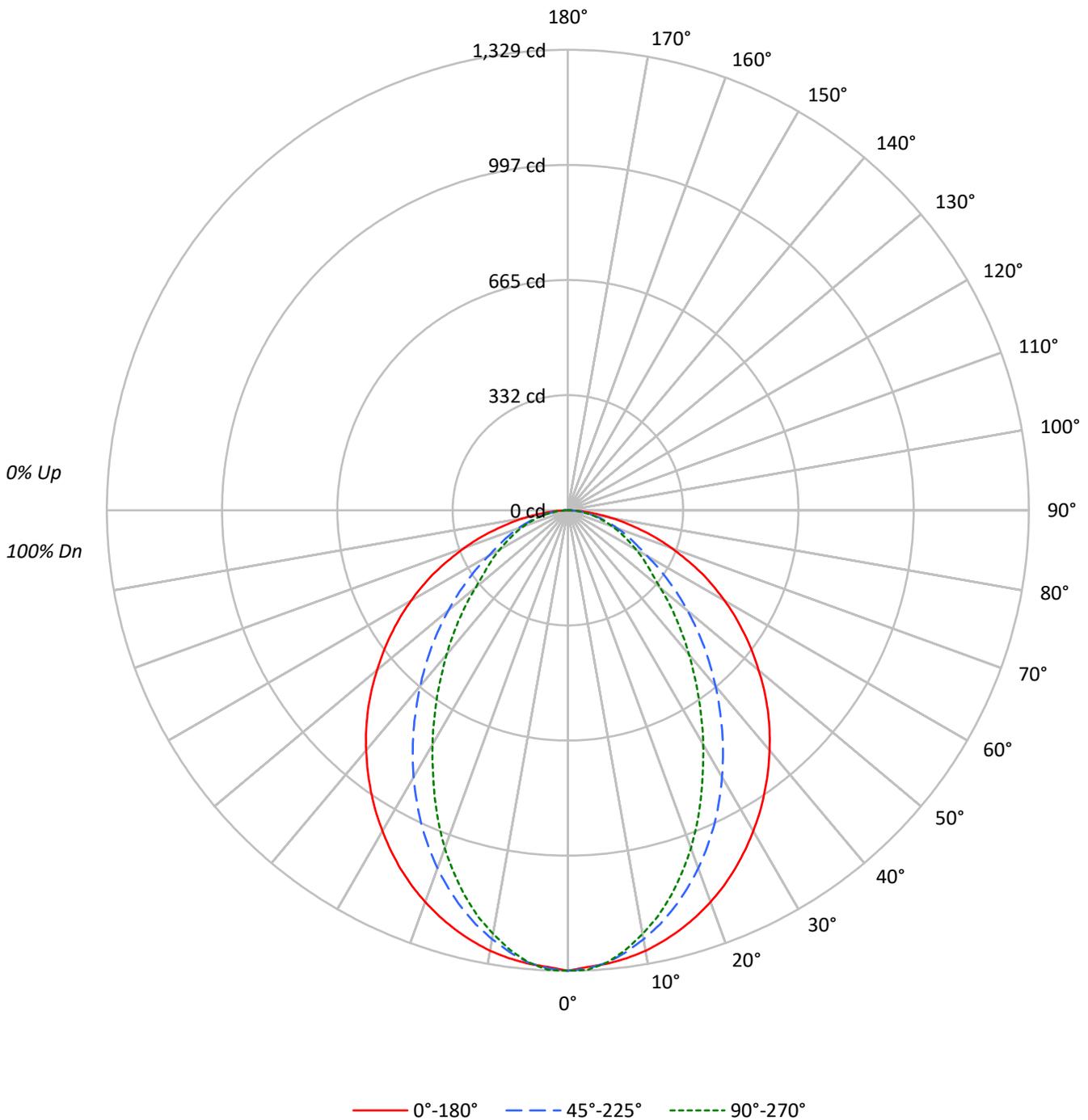
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2647.0 lumens  
Efficiency: N/A  
Efficacy: 111.2 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): 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	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°	11750	11750	11750
5°	11657	11630	11621
10°	11589	11281	11141
15°	11466	10858	10526
20°	11317	10342	9763
25°	11133	9750	8873
30°	10913	9075	7967
35°	10682	8370	7093
40°	10441	7642	6275
45°	10185	6933	5514
50°	9873	6187	4762
55°	9572	5441	4327
60°	9234	4668	4012
65°	8818	4234	3745
70°	8189	3919	3539
75°	7416	3607	3341
80°	6471	3335	3136
85°	4961	3074	2881

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10185 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.7	4.7
10°-20°	335.6	12.7
20°-30°	464.7	17.6
30°-40°	498.8	18.8
40°-50°	453.6	17.1
50°-60°	357.2	13.5
60°-70°	244.5	9.2
70°-80°	131.6	5.0
80°-90°	37.3	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°	924.1	34.9
0°-40°	1422.9	53.8
0°-60°	2233.7	84.4
0°-90°	2647.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2647.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1313	1328	1310	1304	1309	125
15°	1253	1239	1186	1154	1150	353
25°	1141	1094	999	927	910	525
35°	990	912	776	682	657	619
45°	815	711	554	459	441	628
55°	621	503	353	285	281	555
65°	422	301	202	180	179	416
75°	217	132	106	97	98	232
85°	49	33	30	28	28	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1329.0	1329.0	1329.0	1329.0	1329.0
2.5°	1319.2	1334.9	1323.1	1325.1	1327.0
5°	1313.4	1328.0	1310.4	1303.6	1309.4
7.5°	1303.6	1313.4	1286.0	1273.3	1279.1
10°	1290.9	1292.8	1256.6	1238.1	1241.0
12.5°	1273.3	1268.4	1224.4	1198.0	1199.9
15°	1252.7	1239.0	1186.2	1154.0	1150.0
17.5°	1229.3	1206.8	1144.2	1103.1	1095.3
20°	1202.8	1172.5	1099.2	1046.4	1037.6
22.5°	1173.5	1134.4	1050.3	987.7	975.0
25°	1141.2	1094.3	999.4	927.1	909.5
27.5°	1106.0	1051.3	944.7	865.5	843.0
30°	1068.9	1006.3	888.9	803.9	780.4
32.5°	1030.7	960.3	832.2	742.2	717.8
35°	989.7	912.4	775.5	681.6	657.2
37.5°	947.6	862.5	717.8	622.9	597.5
40°	904.6	812.7	662.1	564.3	543.7
42.5°	860.6	761.8	607.3	509.5	490.9
45°	814.6	711.0	554.5	458.6	441.0
47.5°	767.7	659.1	500.7	410.7	394.1
50°	717.8	607.3	449.8	363.8	346.2
52.5°	669.9	554.5	400.9	317.8	309.0
55°	621.0	502.7	353.0	284.6	280.7
57.5°	572.1	450.8	309.0	258.2	254.3
60°	522.2	400.0	264.0	230.8	226.9
62.5°	472.3	350.1	230.8	204.4	202.4
65°	421.5	301.2	202.4	179.9	179.0
67.5°	367.7	254.3	177.0	158.4	157.4
70°	316.8	207.3	151.6	136.9	136.9
72.5°	268.9	164.3	128.1	116.4	116.4
75°	217.1	132.0	105.6	96.8	97.8
77.5°	171.1	103.7	85.1	79.2	79.2
80°	127.1	77.3	65.5	60.6	61.6
82.5°	86.1	53.8	46.9	44.0	44.0
85°	48.9	33.2	30.3	28.4	28.4
87.5°	17.6	15.6	14.7	12.7	13.7
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	19.70	21.23	20.07	21.54	21.85	15.48	17.01	15.85	17.32	17.63
	3H	21.48	22.85	21.85	23.17	23.54	17.09	18.46	17.47	18.79	19.15
	4H	22.15	23.43	22.55	23.78	24.16	17.72	19.01	18.12	19.36	19.74
	6H	22.66	23.85	23.07	24.21	24.60	18.22	19.41	18.63	19.78	20.17
	8H	22.82	23.95	23.25	24.34	24.74	18.39	19.52	18.82	19.91	20.31
	12H	22.92	24.00	23.35	24.39	24.82	18.51	19.60	18.94	19.98	20.41
4H	2H	19.80	21.08	20.20	21.43	21.81	16.20	17.48	16.60	17.83	18.21
	3H	21.74	22.81	22.15	23.21	23.61	18.01	19.08	18.42	19.47	19.88
	4H	22.50	23.46	22.93	23.88	24.31	18.74	19.71	19.17	20.12	20.56
	6H	23.13	23.97	23.59	24.41	24.87	19.36	20.20	19.82	20.64	21.10
	8H	23.35	24.14	23.82	24.58	25.05	19.57	20.36	20.04	20.80	21.27
	12H	23.51	24.21	23.99	24.69	25.16	19.74	20.44	20.22	20.92	21.39
8H	4H	22.55	23.34	23.02	23.78	24.25	19.13	19.92	19.59	20.36	20.83
	6H	23.25	23.90	23.75	24.39	24.87	19.86	20.51	20.36	21.00	21.48
	8H	23.52	24.10	24.04	24.61	25.10	20.15	20.73	20.66	21.24	21.73
	12H	23.74	24.25	24.25	24.75	25.31	20.40	20.91	20.91	21.40	21.97
12H	4H	22.55	23.25	23.03	23.73	24.20	19.19	19.89	19.67	20.37	20.84
	6H	23.25	23.83	23.76	24.34	24.83	19.94	20.53	20.46	21.04	21.53
	8H	23.56	24.07	24.06	24.56	25.13	20.29	20.81	20.80	21.30	21.87