

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: P1056207

Luminaire Tested: S124R3DR-H795D850-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1056207  
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-H795D850-X4F0-XX-UDD-FLL-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

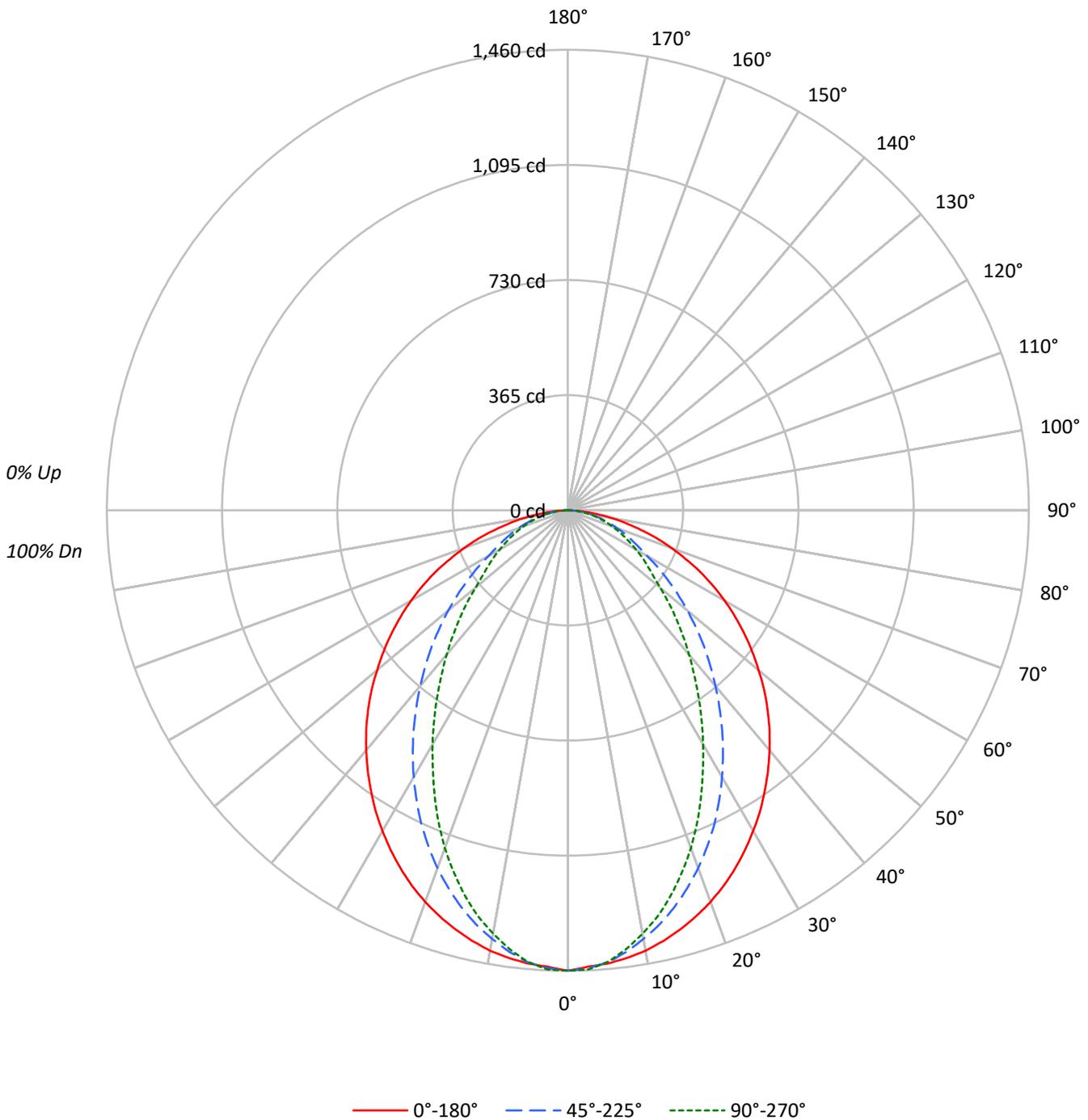
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2906.9 lumens  
Efficiency: N/A  
Efficacy: 122.1 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 (A<sub>in</sub>): 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	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				
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76					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°	12904	12904	12904
5°	12801	12772	12762
10°	12727	12389	12235
15°	12592	11924	11560
20°	12428	11357	10720
25°	12226	10708	9743
30°	11983	9966	8749
35°	11730	9192	7790
40°	11465	8391	6891
45°	11186	7613	6055
50°	10843	6795	5230
55°	10511	5976	4751
60°	10141	5128	4407
65°	9684	4651	4111
70°	8996	4304	3885
75°	8144	3963	3669
80°	7108	3666	3447
85°	5448	3378	3155

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11186 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.9	4.7
10°-20°	368.6	12.7
20°-30°	510.3	17.6
30°-40°	547.8	18.8
40°-50°	498.1	17.1
50°-60°	392.3	13.5
60°-70°	268.5	9.2
70°-80°	144.5	5.0
80°-90°	40.9	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°	1014.8	34.9
0°-40°	1562.5	53.8
0°-60°	2452.9	84.4
0°-90°	2906.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2906.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1460	1460	1460	1460	1460	
5°	1442	1458	1439	1432	1438	137
15°	1376	1361	1303	1267	1263	388
25°	1253	1202	1098	1018	999	577
35°	1087	1002	852	748	722	680
45°	895	781	609	504	484	690
55°	682	552	388	312	308	610
65°	463	331	222	198	196	457
75°	238	145	116	106	107	255
85°	54	36	33	31	31	65
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1459.5	1459.5	1459.5	1459.5	1459.5
2.5°	1448.7	1465.9	1453.0	1455.2	1457.3
5°	1442.3	1458.4	1439.1	1431.5	1438.0
7.5°	1431.5	1442.3	1412.2	1398.2	1404.7
10°	1417.6	1419.7	1380.0	1359.6	1362.8
12.5°	1398.2	1392.9	1344.6	1315.6	1317.7
15°	1375.7	1360.7	1302.7	1267.2	1262.9
17.5°	1349.9	1325.2	1256.5	1211.4	1202.8
20°	1320.9	1287.6	1207.1	1149.1	1139.4
22.5°	1288.7	1245.8	1153.4	1084.7	1070.7
25°	1253.3	1201.7	1097.6	1018.1	998.7
27.5°	1214.6	1154.5	1037.4	950.4	925.7
30°	1173.8	1105.1	976.2	882.8	857.0
32.5°	1131.9	1054.6	913.9	815.1	788.3
35°	1086.8	1002.0	851.6	748.5	721.7
37.5°	1040.6	947.2	788.3	684.1	656.2
40°	993.4	892.4	727.0	619.7	597.1
42.5°	945.1	836.6	666.9	559.5	539.1
45°	894.6	780.7	608.9	503.7	484.3
47.5°	843.0	723.8	549.8	451.0	432.8
50°	788.3	666.9	494.0	399.5	380.2
52.5°	735.6	608.9	440.3	349.0	339.4
55°	681.9	552.0	387.7	312.5	308.2
57.5°	628.2	495.1	339.4	283.5	279.2
60°	573.5	439.2	290.0	253.4	249.2
62.5°	518.7	384.5	253.4	224.5	222.3
65°	462.9	330.8	222.3	197.6	196.5
67.5°	403.8	279.2	194.4	174.0	172.9
70°	348.0	227.7	166.5	150.3	150.3
72.5°	295.3	180.4	140.7	127.8	127.8
75°	238.4	145.0	116.0	106.3	107.4
77.5°	187.9	113.8	93.4	87.0	87.0
80°	139.6	84.8	72.0	66.6	67.7
82.5°	94.5	59.1	51.5	48.3	48.3
85°	53.7	36.5	33.3	31.1	31.1
87.5°	19.3	17.2	16.1	14.0	15.0
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	20.03	21.55	20.39	21.87	22.18	15.80	17.33	16.17	17.64	17.96
	3H	21.80	23.17	22.18	23.50	23.86	17.42	18.79	17.79	19.11	19.48
	4H	22.47	23.76	22.87	24.11	24.49	18.05	19.33	18.45	19.68	20.06
	6H	22.98	24.17	23.40	24.54	24.93	18.55	19.74	18.96	20.10	20.49
	8H	23.15	24.28	23.57	24.67	25.07	18.72	19.85	19.14	20.24	20.64
	12H	23.25	24.33	23.68	24.71	25.14	18.84	19.92	19.27	20.30	20.73
4H	2H	20.12	21.41	20.52	21.76	22.14	16.52	17.81	16.92	18.16	18.54
	3H	22.07	23.14	22.48	23.54	23.94	18.33	19.40	18.74	19.80	20.20
	4H	22.82	23.79	23.26	24.20	24.64	19.07	20.03	19.50	20.45	20.89
	6H	23.46	24.30	23.91	24.74	25.20	19.68	20.52	20.14	20.97	21.43
	8H	23.68	24.46	24.14	24.91	25.37	19.90	20.68	20.36	21.13	21.60
	12H	23.83	24.53	24.31	25.01	25.48	20.07	20.77	20.55	21.25	21.72
8H	4H	22.88	23.67	23.34	24.11	24.58	19.46	20.24	19.92	20.68	21.15
	6H	23.58	24.23	24.08	24.72	25.20	20.19	20.84	20.68	21.33	21.81
	8H	23.85	24.43	24.36	24.94	25.43	20.48	21.06	20.99	21.57	22.06
	12H	24.06	24.58	24.57	25.07	25.64	20.72	21.24	21.23	21.73	22.29
12H	4H	22.87	23.57	23.35	24.05	24.52	19.51	20.21	19.99	20.69	21.16
	6H	23.57	24.16	24.09	24.67	25.15	20.27	20.85	20.78	21.36	21.85
	8H	23.88	24.40	24.39	24.89	25.45	20.62	21.13	21.13	21.63	22.19