

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: P1056219

Luminaire Tested: S124R3DR-H795D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1056219  
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-H795D940-X4F0-XX-UDD-F-W  
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

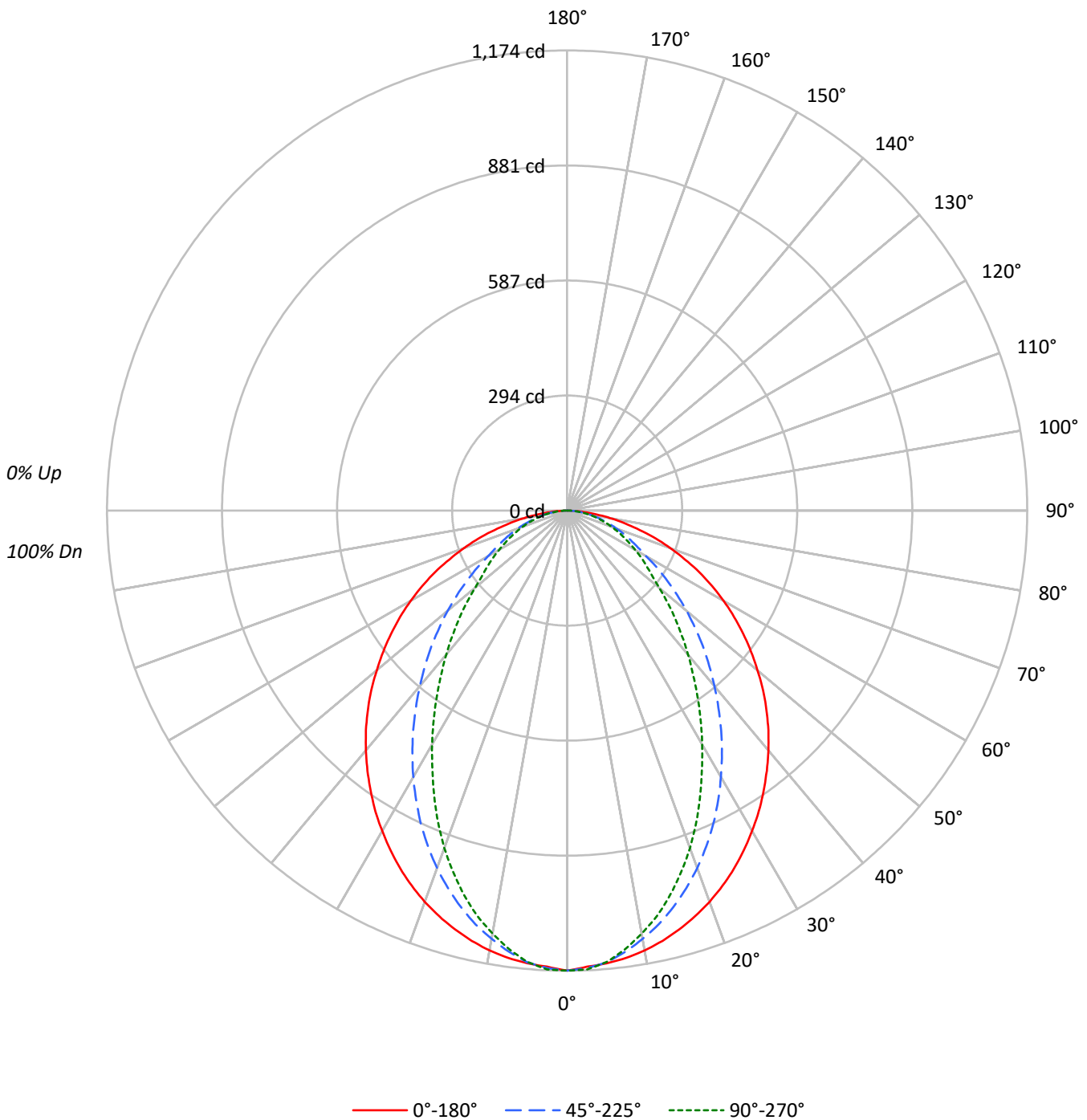
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2337.3 lumens  
Efficiency: N/A  
Efficacy: 98.2 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 (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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	10375	10375	10375
5°	10293	10269	10261
10°	10233	9962	9838
15°	10125	9587	9295
20°	9993	9132	8620
25°	9830	8609	7835
30°	9635	8013	7035
35°	9432	7391	6263
40°	9218	6747	5541
45°	8994	6122	4869
50°	8718	5463	4205
55°	8452	4805	3820
60°	8154	4122	3542
65°	7787	3738	3305
70°	7233	3459	3125
75°	6549	3187	2951
80°	5718	2948	2770
85°	4382	2719	2536

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8994 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.3	4.7
10°-20°	296.4	12.7
20°-30°	410.3	17.6
30°-40°	440.4	18.8
40°-50°	400.5	17.1
50°-60°	315.4	13.5
60°-70°	215.9	9.2
70°-80°	116.2	5.0
80°-90°	32.9	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°	816.0	34.9
0°-40°	1256.4	53.8
0°-60°	1972.3	84.4
0°-90°	2337.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2337.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1174	1174	1174	1174	1174	
5°	1160	1173	1157	1151	1156	110
15°	1106	1094	1047	1019	1016	312
25°	1008	966	882	819	803	464
35°	874	806	685	602	580	547
45°	719	628	490	405	389	555
55°	548	444	312	251	248	490
65°	372	266	179	159	158	367
75°	192	117	93	86	86	205
85°	43	29	27	25	25	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1173.5	1173.5	1173.5	1173.5	1173.5
2.5°	1164.9	1178.7	1168.3	1170.1	1171.8
5°	1159.7	1172.6	1157.1	1151.1	1156.2
7.5°	1151.1	1159.7	1135.5	1124.3	1129.5
10°	1139.8	1141.6	1109.6	1093.2	1095.8
12.5°	1124.3	1120.0	1081.1	1057.8	1059.5
15°	1106.2	1094.1	1047.4	1018.9	1015.5
17.5°	1085.4	1065.6	1010.3	974.0	967.1
20°	1062.1	1035.3	970.6	924.0	916.2
22.5°	1036.2	1001.7	927.4	872.1	860.9
25°	1007.7	966.3	882.5	818.6	803.1
27.5°	976.6	928.3	834.1	764.2	744.3
30°	943.8	888.5	784.9	709.8	689.1
32.5°	910.1	848.0	734.8	655.4	633.8
35°	873.9	805.7	684.8	601.9	580.3
37.5°	836.7	761.6	633.8	550.1	527.6
40°	798.7	717.6	584.6	498.2	480.1
42.5°	759.9	672.7	536.2	449.9	433.5
45°	719.3	627.8	489.6	405.0	389.4
47.5°	677.9	582.0	442.1	362.7	348.0
50°	633.8	536.2	397.2	321.2	305.7
52.5°	591.5	489.6	354.0	280.6	272.9
55°	548.3	443.8	311.7	251.3	247.8
57.5°	505.2	398.1	272.9	228.0	224.5
60°	461.1	353.2	233.1	203.8	200.3
62.5°	417.1	309.1	203.8	180.5	178.7
65°	372.2	266.0	178.7	158.9	158.0
67.5°	324.7	224.5	156.3	139.9	139.0
70°	279.8	183.1	133.8	120.9	120.9
72.5°	237.5	145.1	113.1	102.8	102.8
75°	191.7	116.6	93.3	85.5	86.4
77.5°	151.1	91.5	75.1	69.9	69.9
80°	112.3	68.2	57.9	53.5	54.4
82.5°	76.0	47.5	41.4	38.9	38.9
85°	43.2	29.4	26.8	25.0	25.0
87.5°	15.5	13.8	13.0	11.2	12.1
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	19.27	20.79	19.63	21.11	21.42	15.05	16.57	15.41	16.89	17.20
	3H	21.05	22.42	21.42	22.74	23.10	16.66	18.03	17.04	18.36	18.72
	4H	21.72	23.00	22.12	23.35	23.73	17.29	18.58	17.69	18.93	19.30
	6H	22.23	23.41	22.64	23.78	24.17	17.79	18.98	18.20	19.34	19.74
	8H	22.39	23.52	22.82	23.91	24.31	17.96	19.09	18.39	19.48	19.88
	12H	22.49	23.57	22.92	23.95	24.38	18.08	19.17	18.51	19.55	19.98
4H	2H	19.37	20.65	19.76	21.00	21.38	15.77	17.05	16.17	17.40	17.78
	3H	21.31	22.38	21.72	22.78	23.18	17.57	18.64	17.98	19.04	19.44
	4H	22.07	23.03	22.50	23.44	23.88	18.31	19.27	18.74	19.69	20.13
	6H	22.70	23.54	23.16	23.98	24.44	18.93	19.77	19.38	20.21	20.67
	8H	22.92	23.70	23.38	24.15	24.62	19.14	19.93	19.61	20.37	20.84
	12H	23.07	23.78	23.56	24.25	24.73	19.31	20.01	19.79	20.49	20.96
8H	4H	22.12	22.91	22.59	23.35	23.82	18.70	19.48	19.16	19.93	20.40
	6H	22.82	23.47	23.32	23.96	24.44	19.43	20.08	19.93	20.57	21.05
	8H	23.09	23.67	23.60	24.18	24.67	19.72	20.30	20.23	20.81	21.30
	12H	23.31	23.82	23.82	24.32	24.88	19.96	20.48	20.47	20.97	21.54
12H	4H	22.11	22.82	22.60	23.29	23.77	18.75	19.46	19.24	19.93	20.41
	6H	22.81	23.40	23.33	23.91	24.40	19.51	20.10	20.03	20.61	21.09
	8H	23.12	23.64	23.63	24.13	24.69	19.86	20.38	20.37	20.87	21.43