

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: P1439924

Luminaire Tested: S124DR-H675D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439924  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DR-H675D840-X4F0-XX-UDD-FLB-W  
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

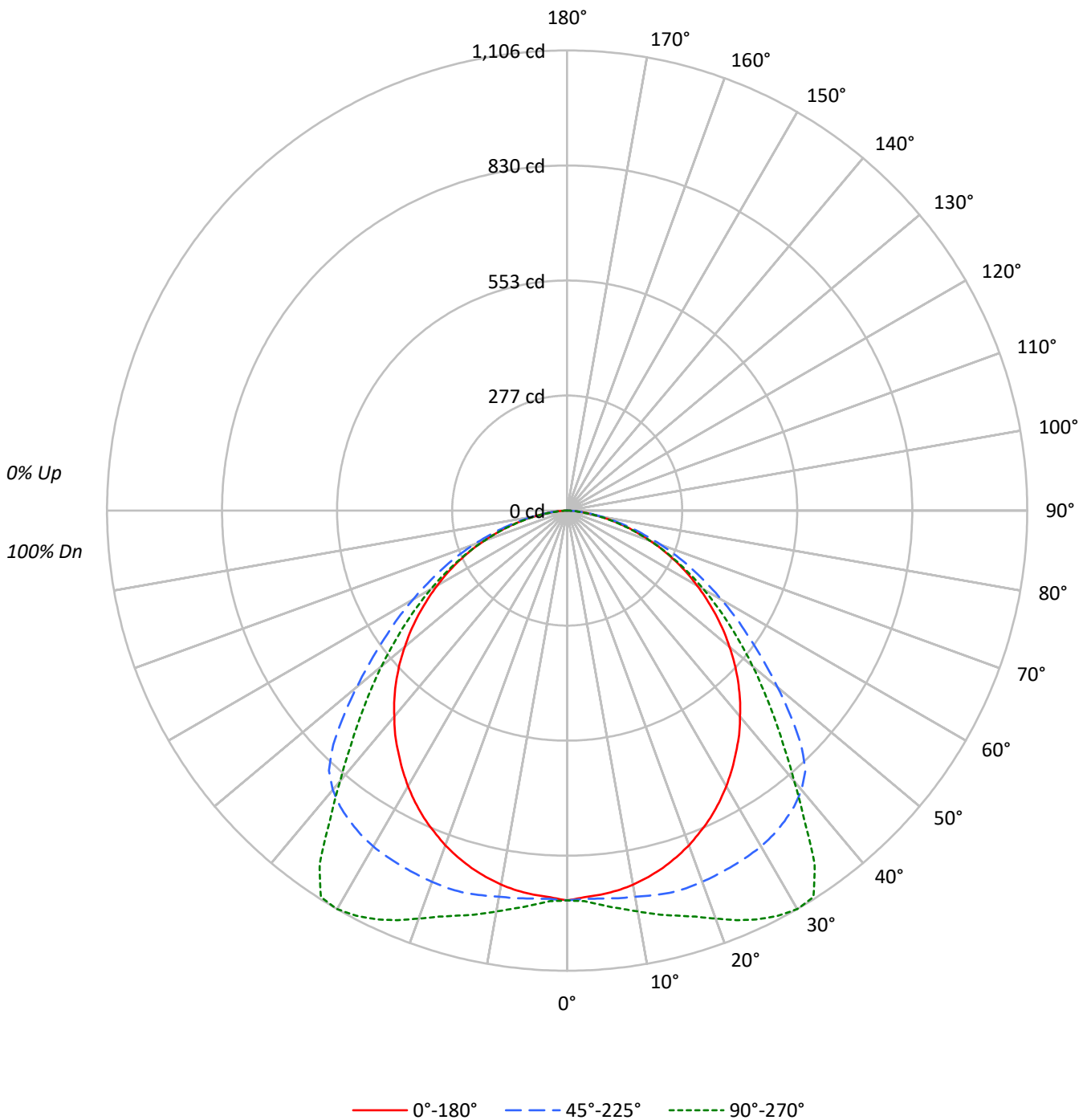
Lumens per Lamp: N/A  
Luminaire Lumens: 2847.2 lumens  
Efficiency: N/A  
Efficacy: 119.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct

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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8283	8283	8283
5°	8225	8306	8446
10°	8197	8461	8782
15°	8138	8710	9224
20°	8054	8936	9818
25°	7947	9193	10575
30°	7809	9518	11291
35°	7641	9834	11194
40°	7459	10113	9794
45°	7266	9944	8806
50°	7005	9080	8005
55°	6718	8262	7313
60°	6389	7575	6698
65°	6002	6906	6117
70°	5491	6178	5467
75°	4837	5309	4741
80°	3976	4262	3839
85°	2800	2891	2607

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 9944 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.9	3.2
10°-20°	269.4	9.5
20°-30°	438.5	15.4
30°-40°	556.9	19.6
40°-50°	542.6	19.1
50°-60°	444.9	15.6
60°-70°	310.4	10.9
70°-80°	159.3	5.6
80°-90°	35.3	1.2
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°	797.8	28.0
0°-40°	1354.7	47.6
0°-60°	2342.2	82.3
0°-90°	2847.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2847.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	937	937	937	937	937	
5°	927	940	936	942	952	88
15°	889	917	952	989	1008	251
25°	815	867	942	1040	1084	375
35°	708	777	911	1044	1037	443
45°	581	653	795	729	704	448
55°	436	503	536	491	474	390
65°	287	328	330	303	292	284
75°	142	157	155	144	139	151
85°	28	28	28	27	26	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	936.9	936.9	936.9	936.9	936.9
2.5°	930.4	942.4	934.1	937.8	939.6
5°	926.8	940.5	935.9	942.4	951.6
7.5°	921.2	936.9	939.6	952.5	964.5
10°	913.0	931.4	942.4	964.5	978.2
12.5°	901.9	924.9	947.0	977.3	993.9
15°	889.1	916.6	951.6	989.3	1007.7
17.5°	873.4	906.5	951.6	998.5	1023.3
20°	856.0	894.6	949.7	1010.4	1043.5
22.5°	835.7	881.7	946.1	1024.2	1065.6
25°	814.6	867.0	942.4	1039.8	1084.0
27.5°	790.7	849.5	937.8	1051.8	1097.8
30°	764.9	828.4	932.3	1057.3	1106.0
32.5°	737.4	803.6	923.1	1057.3	1101.4
35°	707.9	776.9	911.1	1043.5	1037.1
37.5°	679.4	748.4	896.4	976.4	935.9
40°	646.3	718.1	876.2	881.7	848.6
42.5°	615.1	685.9	847.7	801.7	772.3
45°	581.1	652.8	795.3	729.1	704.3
47.5°	546.1	616.9	727.2	663.8	640.8
50°	509.3	581.1	660.1	602.2	582.0
52.5°	473.5	542.4	595.8	545.2	525.9
55°	435.8	502.9	536.0	491.0	474.4
57.5°	398.1	462.5	481.8	440.4	424.8
60°	361.3	419.2	428.4	392.6	378.8
62.5°	324.5	374.2	377.9	346.6	334.7
65°	286.9	328.2	330.1	303.4	292.4
67.5°	250.1	284.1	284.1	261.1	251.9
70°	212.4	240.9	239.0	220.7	211.5
72.5°	176.5	196.8	194.9	181.1	174.7
75°	141.6	157.2	155.4	144.3	138.8
77.5°	108.5	119.5	117.7	110.3	105.7
80°	78.1	84.6	83.7	78.1	75.4
82.5°	51.5	55.2	53.3	49.6	47.8
85°	27.6	28.5	28.5	26.7	25.7
87.5°	10.1	10.1	10.1	10.1	9.2
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	19.03	20.63	19.40	20.94	21.26	18.81	20.41	19.18	20.73	21.04
	3H	20.53	21.97	20.91	22.30	22.66	20.29	21.73	20.66	22.05	22.41
	4H	21.04	22.39	21.43	22.74	23.11	20.78	22.13	21.18	22.48	22.86
	6H	21.36	22.61	21.77	22.97	23.37	21.10	22.35	21.51	22.71	23.11
	8H	21.44	22.63	21.86	23.02	23.42	21.17	22.37	21.60	22.76	23.16
	12H	21.48	22.62	21.91	23.00	23.43	21.21	22.35	21.64	22.73	23.16
4H	2H	19.65	21.01	20.05	21.35	21.73	19.48	20.84	19.88	21.18	21.56
	3H	21.38	22.51	21.79	22.91	23.31	21.15	22.28	21.56	22.68	23.08
	4H	22.01	23.03	22.44	23.44	23.88	21.75	22.76	22.18	23.18	23.61
	6H	22.44	23.32	22.89	23.76	24.22	22.16	23.04	22.61	23.49	23.94
	8H	22.55	23.38	23.01	23.82	24.29	22.26	23.09	22.72	23.53	24.00
	12H	22.61	23.36	23.10	23.83	24.30	22.32	23.06	22.80	23.54	24.01
8H	4H	22.25	23.08	22.71	23.52	23.99	22.02	22.85	22.48	23.29	23.76
	6H	22.78	23.46	23.27	23.95	24.43	22.52	23.21	23.01	23.69	24.17
	8H	22.94	23.56	23.45	24.06	24.55	22.67	23.28	23.18	23.79	24.28
	12H	23.05	23.59	23.56	24.08	24.65	22.77	23.31	23.27	23.80	24.36
12H	4H	22.26	23.00	22.74	23.48	23.95	22.04	22.78	22.52	23.26	23.73
	6H	22.80	23.41	23.31	23.92	24.41	22.55	23.17	23.06	23.67	24.16
	8H	23.01	23.55	23.51	24.04	24.60	22.74	23.29	23.25	23.78	24.34