

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: P1439925

Luminaire Tested: S124DR-H675D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439925
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-H675D850-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

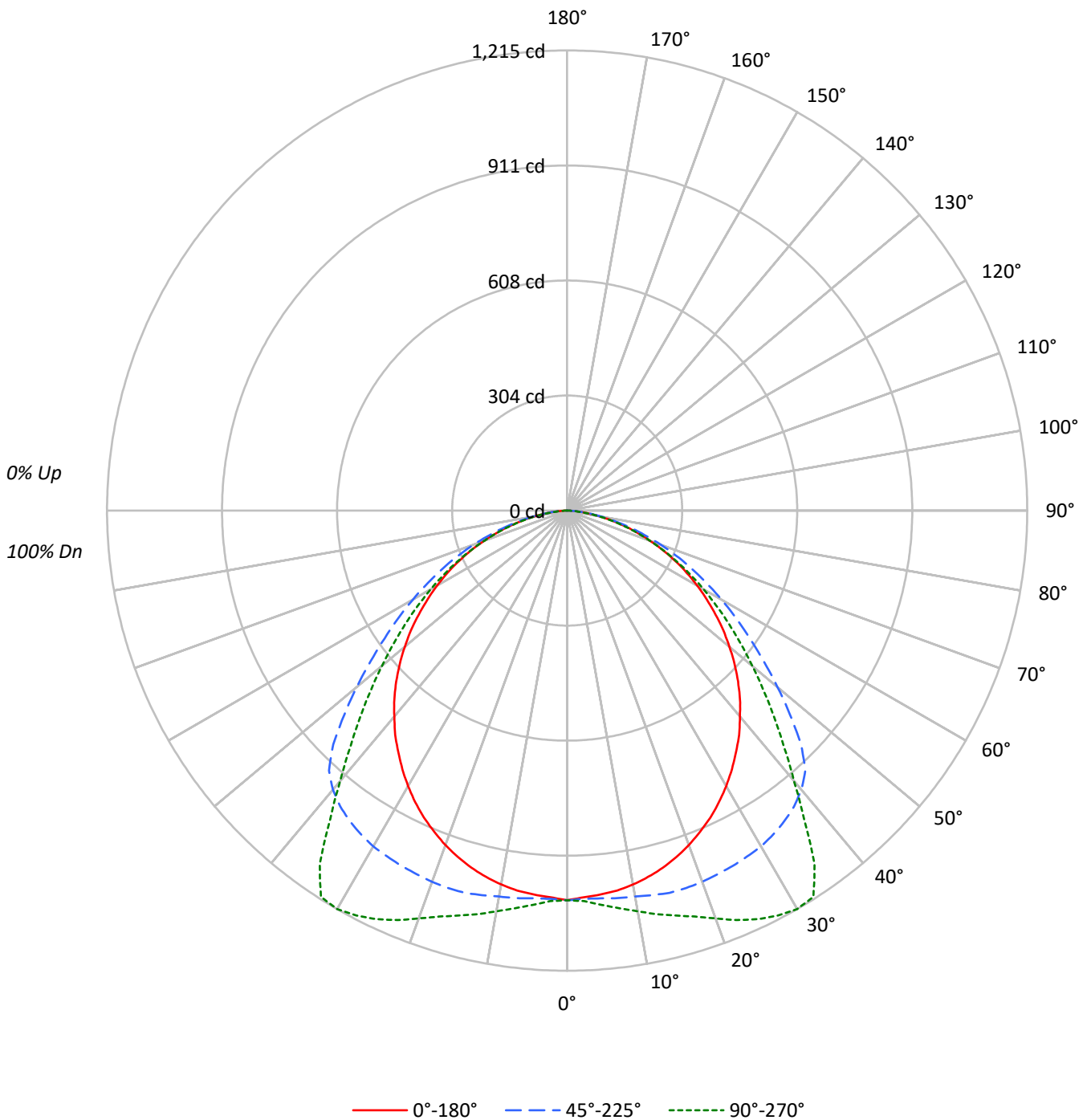
Lumens per Lamp: N/A
Luminaire Lumens: 3126.7 lumens
Efficiency: N/A
Efficacy: 131.4 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1439925

CATALOG NUMBER: S124DR-H675D850-X4F0-XX-UDD-FLB-W

Luminous Intensity Polar Plot



TEST NUMBER: P1439925

CATALOG NUMBER: S124DR-H675D850-X4F0-XX-UDD-FLB-W

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°	9096	9096	9096
5°	9032	9122	9275
10°	9001	9291	9645
15°	8936	9565	10129
20°	8844	9813	10782
25°	8727	10096	11613
30°	8576	10452	12400
35°	8391	10800	12293
40°	8192	11105	10756
45°	7979	10921	9670
50°	7693	9971	8791
55°	7377	9073	8031
60°	7017	8320	7356
65°	6590	7584	6718
70°	6028	6786	6002
75°	5312	5828	5209
80°	4369	4679	4216
85°	3074	3175	2871

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 10921 cd/sqm



TEST NUMBER: P1439925

CATALOG NUMBER: S124DR-H675D850-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.7	3.2
10°-20°	295.8	9.5
20°-30°	481.6	15.4
30°-40°	611.5	19.6
40°-50°	595.9	19.1
50°-60°	488.6	15.6
60°-70°	340.9	10.9
70°-80°	174.9	5.6
80°-90°	38.8	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°	876.1	28.0
0°-40°	1487.7	47.6
0°-60°	2572.1	82.3
0°-90°	3126.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3126.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1029	1029	1029	1029	1029	
5°	1018	1033	1028	1035	1045	97
15°	976	1007	1045	1086	1107	275
25°	895	952	1035	1142	1190	412
35°	777	853	1001	1146	1139	487
45°	638	717	873	801	773	492
55°	479	552	589	539	521	428
65°	315	360	362	333	321	312
75°	156	173	171	158	152	166
85°	30	31	31	29	28	38
90°	0	0	0	0	0	



TEST NUMBER: P1439925

CATALOG NUMBER: S124DR-H675D850-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1028.8	1028.8	1028.8	1028.8	1028.8
2.5°	1021.8	1034.9	1025.8	1029.8	1031.9
5°	1017.7	1032.9	1027.8	1034.9	1045.0
7.5°	1011.7	1028.8	1031.9	1046.0	1059.1
10°	1002.6	1022.8	1034.9	1059.1	1074.3
12.5°	990.5	1015.7	1039.9	1073.3	1091.4
15°	976.3	1006.6	1045.0	1086.4	1106.6
17.5°	959.2	995.5	1045.0	1096.5	1123.7
20°	940.0	982.4	1043.0	1109.6	1146.0
22.5°	917.8	968.3	1038.9	1124.8	1170.2
25°	894.6	952.1	1034.9	1141.9	1190.4
27.5°	868.3	932.9	1029.8	1155.0	1205.5
30°	840.0	909.7	1023.8	1161.1	1214.6
32.5°	809.7	882.4	1013.7	1161.1	1209.6
35°	777.4	853.2	1000.6	1146.0	1138.9
37.5°	746.1	821.9	984.4	1072.3	1027.8
40°	709.8	788.5	962.2	968.3	931.9
42.5°	675.5	753.2	930.9	880.4	848.1
45°	638.1	716.9	873.4	800.7	773.4
47.5°	599.7	677.5	798.6	729.0	703.7
50°	559.3	638.1	724.9	661.3	639.1
52.5°	520.0	595.7	654.3	598.7	577.5
55°	478.6	552.3	588.6	539.2	521.0
57.5°	437.2	507.9	529.1	483.6	466.5
60°	396.8	460.4	470.5	431.1	416.0
62.5°	356.4	410.9	415.0	380.6	367.5
65°	315.0	360.4	362.5	333.2	321.1
67.5°	274.6	312.0	312.0	286.7	276.6
70°	233.2	264.5	262.5	242.3	232.2
72.5°	193.9	216.1	214.0	198.9	191.8
75°	155.5	172.7	170.6	158.5	152.5
77.5°	119.1	131.3	129.2	121.2	116.1
80°	85.8	92.9	91.9	85.8	82.8
82.5°	56.5	60.6	58.6	54.5	52.5
85°	30.3	31.3	31.3	29.3	28.3
87.5°	11.1	11.1	11.1	11.1	10.1
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1439925
 CATALOG NUMBER: S124DR-H675D850-X4F0-XX-UDD-FLB-W

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	19.36	20.95	19.72	21.27	21.58	19.14	20.74	19.50	21.05	21.37
	3H	20.86	22.30	21.24	22.63	22.99	20.61	22.05	20.99	22.38	22.74
	4H	21.36	22.71	21.76	23.06	23.44	21.11	22.46	21.50	22.81	23.18
	6H	21.68	22.93	22.09	23.30	23.69	21.42	22.67	21.83	23.04	23.43
	8H	21.76	22.96	22.19	23.35	23.75	21.50	22.69	21.92	23.08	23.48
	12H	21.80	22.95	22.23	23.33	23.76	21.53	22.68	21.96	23.06	23.49
4H	2H	19.98	21.33	20.38	21.68	22.06	19.81	21.16	20.21	21.51	21.89
	3H	21.71	22.83	22.12	23.23	23.63	21.47	22.60	21.88	23.00	23.40
	4H	22.34	23.35	22.77	23.77	24.20	22.07	23.09	22.50	23.50	23.94
	6H	22.76	23.65	23.22	24.09	24.55	22.48	23.37	22.94	23.81	24.27
	8H	22.88	23.70	23.34	24.15	24.61	22.59	23.42	23.05	23.86	24.32
	12H	22.94	23.68	23.42	24.16	24.63	22.65	23.39	23.13	23.86	24.33
8H	4H	22.58	23.40	23.04	23.85	24.31	22.34	23.17	22.81	23.61	24.08
	6H	23.10	23.79	23.60	24.28	24.75	22.84	23.53	23.34	24.02	24.50
	8H	23.27	23.88	23.78	24.39	24.87	22.99	23.61	23.50	24.12	24.60
	12H	23.37	23.92	23.88	24.41	24.97	23.09	23.64	23.60	24.13	24.69
12H	4H	22.59	23.33	23.07	23.81	24.28	22.36	23.10	22.84	23.58	24.05
	6H	23.12	23.74	23.63	24.25	24.73	22.87	23.49	23.39	24.00	24.49
	8H	23.33	23.88	23.84	24.37	24.93	23.07	23.61	23.58	24.10	24.66