

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: P1439916

Luminaire Tested: S124DR-H485D850-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439916
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-H485D850-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

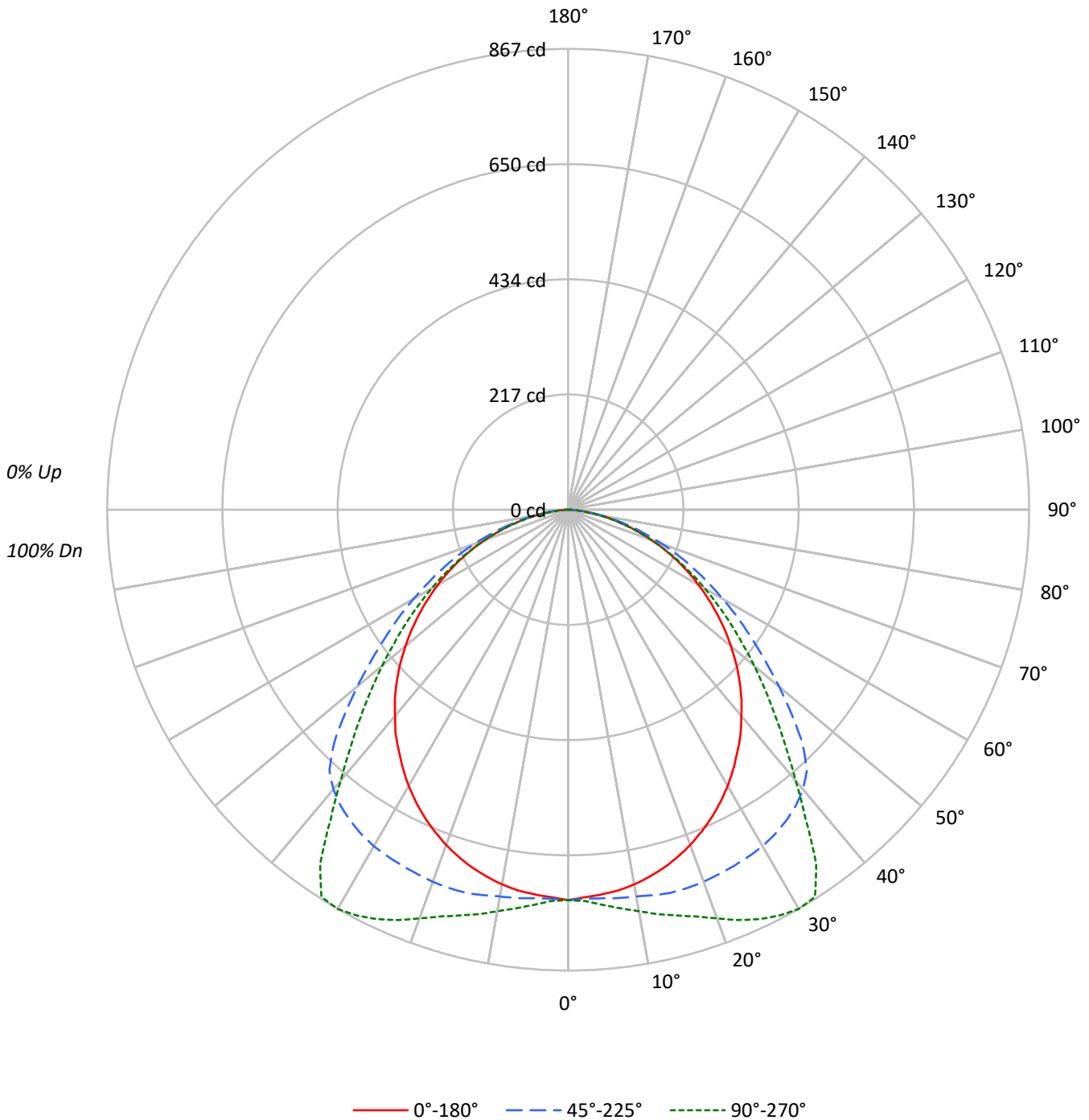
Lumens per Lamp: N/A
Luminaire Lumens: 2232.6 lumens
Efficiency: N/A
Efficacy: 129.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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: P1439916

CATALOG NUMBER: S124DR-H485D850-X4F0-XX-UDD-FLB-W

Luminous Intensity Polar Plot





TEST NUMBER: P1439916

CATALOG NUMBER: S124DR-H485D850-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	67	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°	6495	6495	6495
5°	6450	6513	6623
10°	6427	6635	6887
15°	6381	6830	7232
20°	6315	7007	7699
25°	6231	7209	8292
30°	6123	7463	8854
35°	5991	7711	8777
40°	5849	7929	7680
45°	5697	7797	6904
50°	5494	7119	6276
55°	5267	6479	5734
60°	5010	5941	5252
65°	4705	5414	4797
70°	4304	4844	4286
75°	3792	4161	3720
80°	3121	3340	3009
85°	2191	2262	2049

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 7797 cd/sqm



TEST NUMBER: P1439916

CATALOG NUMBER: S124DR-H485D850-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.5	3.2
10°-20°	211.2	9.5
20°-30°	343.8	15.4
30°-40°	436.6	19.6
40°-50°	425.5	19.1
50°-60°	348.8	15.6
60°-70°	243.4	10.9
70°-80°	124.9	5.6
80°-90°	27.7	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°	625.6	28.0
0°-40°	1062.2	47.6
0°-60°	1836.6	82.3
0°-90°	2232.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2232.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	735	735	735	735	735	
5°	727	738	734	739	746	69
15°	697	719	746	776	790	197
25°	639	680	739	815	850	294
35°	555	609	714	818	813	347
45°	456	512	624	572	552	351
55°	342	394	420	385	372	306
65°	225	257	259	238	229	223
75°	111	123	122	113	109	118
85°	22	22	22	21	20	27
90°	0	0	0	0	0	



TEST NUMBER: P1439916

CATALOG NUMBER: S124DR-H485D850-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	734.6	734.6	734.6	734.6	734.6
2.5°	729.6	739.0	732.5	735.3	736.8
5°	726.7	737.5	733.9	739.0	746.2
7.5°	722.4	734.6	736.8	746.9	756.3
10°	715.9	730.3	739.0	756.3	767.1
12.5°	707.2	725.3	742.6	766.3	779.3
15°	697.1	718.8	746.2	775.7	790.1
17.5°	684.9	710.8	746.2	782.9	802.4
20°	671.2	701.5	744.7	792.3	818.3
22.5°	655.3	691.4	741.8	803.1	835.6
25°	638.7	679.8	739.0	815.4	850.0
27.5°	620.0	666.1	735.3	824.7	860.8
30°	599.8	649.6	731.0	829.1	867.3
32.5°	578.2	630.1	723.8	829.1	863.7
35°	555.1	609.2	714.4	818.3	813.2
37.5°	532.8	586.8	702.9	765.6	733.9
40°	506.8	563.0	687.0	691.4	665.4
42.5°	482.3	537.8	664.7	628.7	605.6
45°	455.6	511.9	623.6	571.7	552.2
47.5°	428.2	483.7	570.3	520.5	502.5
50°	399.4	455.6	517.6	472.2	456.3
52.5°	371.3	425.3	467.2	427.5	412.4
55°	341.7	394.3	420.3	385.0	372.0
57.5°	312.2	362.6	377.8	345.3	333.1
60°	283.3	328.7	336.0	307.8	297.0
62.5°	254.5	293.4	296.3	271.8	262.4
65°	224.9	257.4	258.8	237.9	229.3
67.5°	196.1	222.8	222.8	204.7	197.5
70°	166.5	188.9	187.4	173.0	165.8
72.5°	138.4	154.3	152.8	142.0	137.0
75°	111.0	123.3	121.8	113.2	108.9
77.5°	85.1	93.7	92.3	86.5	82.9
80°	61.3	66.3	65.6	61.3	59.1
82.5°	40.4	43.3	41.8	38.9	37.5
85°	21.6	22.3	22.3	20.9	20.2
87.5°	7.9	7.9	7.9	7.9	7.2
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1439916
 CATALOG NUMBER: S124DR-H485D850-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	18.18	19.78	18.55	20.10	20.41	17.97	19.57	18.33	19.88	20.20
	3H	19.69	21.13	20.06	21.45	21.82	19.44	20.88	19.82	21.21	21.57
	4H	20.19	21.54	20.59	21.89	22.27	19.94	21.29	20.33	21.64	22.01
	6H	20.51	21.76	20.92	22.13	22.52	20.25	21.50	20.66	21.87	22.26
	8H	20.59	21.79	21.02	22.18	22.58	20.33	21.52	20.75	21.91	22.31
	12H	20.63	21.78	21.06	22.16	22.59	20.36	21.51	20.79	21.89	22.32
4H	2H	18.81	20.16	19.21	20.51	20.88	18.64	19.99	19.04	20.34	20.71
	3H	20.54	21.66	20.95	22.06	22.46	20.30	21.43	20.71	21.83	22.23
	4H	21.16	22.18	21.60	22.60	23.03	20.90	21.92	21.33	22.33	22.77
	6H	21.59	22.48	22.05	22.92	23.38	21.31	22.20	21.77	22.64	23.10
	8H	21.71	22.53	22.17	22.98	23.44	21.42	22.25	21.88	22.69	23.15
	12H	21.77	22.51	22.25	22.99	23.46	21.48	22.22	21.96	22.69	23.16
8H	4H	21.41	22.23	21.87	22.68	23.14	21.17	22.00	21.64	22.44	22.91
	6H	21.93	22.62	22.42	23.10	23.58	21.67	22.36	22.17	22.85	23.33
	8H	22.09	22.71	22.61	23.22	23.70	21.82	22.44	22.33	22.95	23.43
	12H	22.20	22.75	22.71	23.24	23.80	21.92	22.47	22.43	22.96	23.52
12H	4H	21.42	22.16	21.90	22.64	23.11	21.19	21.93	21.67	22.41	22.88
	6H	21.95	22.57	22.46	23.08	23.56	21.70	22.32	22.22	22.83	23.31
	8H	22.16	22.71	22.67	23.20	23.76	21.90	22.44	22.40	22.93	23.49