

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: P998159

Luminaire Tested: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K

Issue Date: 5/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P998159
REPORT IS A COMBINATION OF REPORTS P983899 AND P1007351
Test Lab: INNOVATION CENTER
Issue Date: 5/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K
Description: Define 2 Direct/Indirect Pendant with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}
Light Source: -
Ballast/Driver: -

Summary

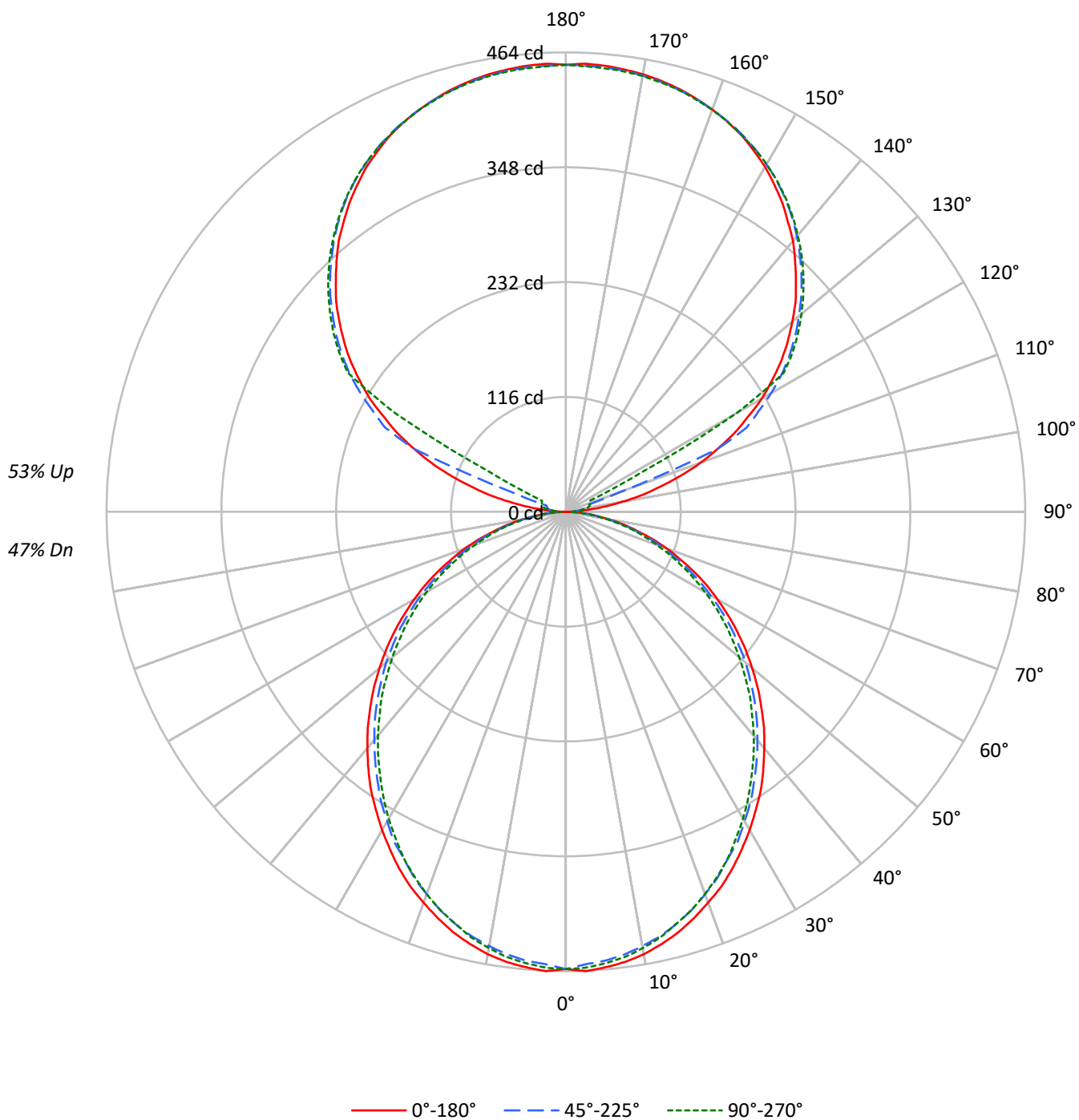
Lumens per Lamp: N/A
Luminaire Lumens: 2499.0 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 22.3
Input Voltage (V):
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: P998159

CATALOG NUMBER: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K

Luminous Intensity Polar Plot



TEST NUMBER: P998159

CATALOG NUMBER: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53
1	97	93	89	85	89	85	82	79	72	69	67	59	57	56	47	46	45
2	88	81	75	70	81	75	69	65	63	59	56	52	49	47	42	40	38
3	81	71	64	58	74	66	59	54	55	51	47	46	42	39	37	34	32
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	30	28
5	68	56	48	42	62	52	45	39	44	38	34	37	32	29	30	27	24
6	62	50	42	36	57	47	39	34	40	34	30	33	29	26	27	24	21
7	58	45	38	32	53	42	35	30	36	30	26	30	26	23	25	21	19
8	53	41	34	28	49	38	31	27	33	27	23	27	23	20	23	19	17
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	15
10	46	34	27	23	43	32	26	21	28	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7310	7310	7310
5°	7322	6969	6918
10°	7262	6651	6518
15°	7156	6331	6099
20°	7013	5983	5700
25°	6870	5619	5302
30°	6688	5277	4883
35°	6520	4917	4473
40°	6309	4562	4085
45°	6100	4210	3706
50°	5873	3850	3311
55°	5633	3467	2937
60°	5362	3050	2548
65°	5066	2628	2140
70°	4694	2167	1728
75°	4173	1670	1334
80°	3545	1136	860
85°	2571	528	364

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6100 cd/sqm

TEST NUMBER: P998159

CATALOG NUMBER: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.5	1.7
10°-20°	122.3	4.9
20°-30°	179.7	7.2
30°-40°	208.7	8.4
40°-50°	208.5	8.3
50°-60°	181.8	7.3
60°-70°	134.4	5.4
70°-80°	76.0	3.0
80°-90°	20.9	0.8
90°-100°	14.9	0.6
100°-110°	55.5	2.2
110°-120°	147.1	5.9
120°-130°	244.0	9.8
130°-140°	259.2	10.4
140°-150°	240.9	9.6
150°-160°	193.7	7.8
160°-170°	124.8	5.0
170°-180°	43.0	1.7
0°-30°	345.5	13.8
0°-40°	554.2	22.2
0°-60°	944.5	37.8
0°-90°	1175.8	47.1
90°-120°	217.5	8.7
90°-150°	961.7	38.5
90°-180°	1323.0	52.9
0°-180°	2499.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	462	462	462	462	462	
5°	462	460	455	459	458	44
15°	440	437	431	433	431	124
25°	398	394	387	388	387	183
35°	343	339	332	329	327	214
45°	279	276	270	265	263	216
55°	211	209	203	198	196	189
65°	142	140	135	131	129	141
75°	75	74	72	69	70	80
85°	18	18	17	16	16	20
90°	0	4	6	8	9	2
95°	21	10	13	14	14	25
105°	99	109	20	24	25	106
115°	188	193	202	50	27	185
125°	266	270	276	278	279	237
135°	329	334	337	340	339	254
145°	381	381	386	389	387	238
155°	420	417	421	423	420	193
165°	442	440	441	444	441	125
175°	452	450	451	453	450	43
180°	451	451	451	451	451	

TEST NUMBER: P998159

CATALOG NUMBER: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	461.8	461.8	461.8	461.8	461.8
2.5°	464.5	462.3	457.4	461.8	461.0
5°	461.8	460.1	455.2	458.7	457.8
7.5°	458.7	456.1	451.2	454.7	453.8
10°	453.8	450.7	445.4	449.0	447.6
12.5°	447.2	444.5	439.2	441.4	440.5
15°	439.6	437.0	431.2	433.0	430.8
17.5°	430.3	427.6	421.9	424.1	421.9
20°	420.1	417.4	411.2	412.5	410.8
22.5°	409.9	405.9	400.1	400.1	399.2
25°	397.9	394.3	386.8	387.7	386.8
27.5°	384.6	381.5	375.7	374.4	372.1
30°	371.2	367.7	361.0	359.7	357.9
32.5°	357.0	354.4	347.3	344.6	342.8
35°	343.3	338.8	331.7	329.1	326.8
37.5°	327.7	323.7	316.6	313.5	311.3
40°	311.7	308.2	301.1	297.1	295.3
42.5°	296.2	292.6	285.5	281.1	278.4
45°	279.3	276.2	269.6	264.7	262.9
47.5°	262.9	259.8	252.7	247.8	245.1
50°	245.6	243.4	237.1	230.9	228.7
52.5°	228.7	225.6	219.8	214.9	211.8
55°	211.4	208.7	203.4	198.1	195.8
57.5°	194.1	191.8	186.1	180.7	179.0
60°	176.7	175.0	168.7	163.9	162.5
62.5°	159.9	156.8	152.3	147.9	146.1
65°	142.5	139.9	135.4	131.4	129.2
67.5°	124.8	122.6	118.6	115.5	113.7
70°	108.4	106.6	102.6	99.5	97.7
72.5°	91.5	89.7	87.5	84.4	83.0
75°	74.6	73.7	71.5	68.8	69.7
77.5°	59.5	57.7	56.8	55.5	54.2
80°	44.4	44.0	43.1	41.7	40.9
82.5°	30.2	30.2	29.8	28.0	28.0
85°	18.2	17.8	17.3	16.0	15.5
87.5°	8.0	7.1	6.2	4.9	4.4
90°	0.3	3.9	6.5	8.2	8.8
92.5°	8.2	6.9	7.8	8.5	8.8
95°	21.2	10.5	12.7	14.4	14.0
97.5°	38.2	11.4	16.7	17.6	18.0
100°	57.8	13.1	18.6	21.2	21.9
102.5°	79.4	78.7	19.3	22.9	23.8
105°	99.3	109.1	19.9	23.5	24.8
107.5°	122.5	130.6	20.6	24.2	25.5
110°	144.7	151.5	57.2	24.5	25.8



TEST NUMBER: P998159

CATALOG NUMBER: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	165.6	171.5	165.9	25.1	26.1
115°	187.8	193.3	201.5	50.3	26.8
117.5°	207.1	213.6	219.1	172.4	86.9
120°	228.6	233.5	239.4	243.3	199.2
122.5°	246.9	252.1	258.7	260.6	260.9
125°	265.5	269.8	276.0	278.3	279.2
127.5°	282.5	287.1	292.0	295.2	295.6
130°	298.5	303.7	307.3	310.9	310.6
132.5°	314.8	319.1	322.7	325.6	325.3
135°	328.6	333.8	336.7	340.0	339.3
137.5°	342.9	346.8	350.1	353.4	352.4
140°	357.0	359.6	363.2	366.1	364.5
142.5°	368.7	371.0	375.3	377.9	376.2
145°	381.1	380.8	386.4	388.6	387.0
147.5°	391.9	390.9	396.5	398.1	396.8
150°	402.4	400.1	405.3	407.3	405.6
152.5°	411.2	408.6	413.5	415.4	413.1
155°	419.7	416.7	420.7	422.6	420.0
157.5°	426.5	423.9	426.9	429.1	426.5
160°	432.4	430.5	432.4	434.4	432.1
162.5°	437.6	435.7	437.3	439.6	436.7
165°	442.2	440.2	441.2	443.5	441.2
167.5°	445.8	443.8	444.8	447.1	444.2
170°	448.7	446.8	447.4	449.7	446.8
172.5°	450.7	448.7	449.4	451.7	448.7
175°	452.3	450.0	450.7	453.0	449.7
177.5°	453.0	450.7	451.0	453.3	450.4
180°	451.4	451.4	451.4	451.4	451.4

TEST NUMBER: P998159

CATALOG NUMBER: SA2XXDIP-B290D330UB2750-4F0-XX-W2A-F_3500K

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	11.87	12.70	12.85	13.70	15.01	12.65	13.49	13.63	14.48	15.79
	3H	13.20	13.95	14.20	14.96	16.29	14.27	15.02	15.27	16.03	17.36
	4H	13.61	14.32	14.61	15.32	16.67	14.86	15.57	15.87	16.58	17.92
	6H	13.83	14.48	14.84	15.49	16.85	15.27	15.92	16.28	16.93	18.29
	8H	13.85	14.48	14.88	15.51	16.86	15.38	16.00	16.40	17.03	18.38
	12H	13.85	14.44	14.87	15.46	16.84	15.42	16.01	16.45	17.03	18.41
4H	2H	12.33	13.04	13.35	14.05	15.39	12.98	13.69	13.99	14.69	16.04
	3H	13.85	14.44	14.87	15.48	16.83	14.76	15.35	15.78	16.38	17.74
	4H	14.35	14.90	15.38	15.92	17.30	15.44	15.98	16.46	17.01	18.38
	6H	14.66	15.12	15.69	16.17	17.55	15.93	16.40	16.97	17.45	18.82
	8H	14.71	15.15	15.75	16.19	17.58	16.07	16.51	17.11	17.55	18.94
	12H	14.71	15.10	15.77	16.16	17.56	16.13	16.53	17.19	17.59	18.98
8H	4H	14.53	14.96	15.57	16.01	17.40	15.52	15.95	16.56	17.00	18.39
	6H	14.91	15.27	15.97	16.36	17.74	16.09	16.45	17.15	17.53	18.92
	8H	15.01	15.33	16.08	16.40	17.81	16.28	16.59	17.35	17.66	19.07
	12H	15.04	15.32	16.12	16.39	17.83	16.37	16.65	17.45	17.72	19.16
12H	4H	14.51	14.90	15.57	15.96	17.36	15.48	15.88	16.54	16.93	18.33
	6H	14.93	15.24	16.00	16.31	17.72	16.08	16.40	17.15	17.47	18.87
	8H	15.04	15.32	16.11	16.38	17.83	16.27	16.55	17.35	17.62	19.07