

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: P243204

Luminaire Tested: S122DRP-H485D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243204
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-H485D935-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

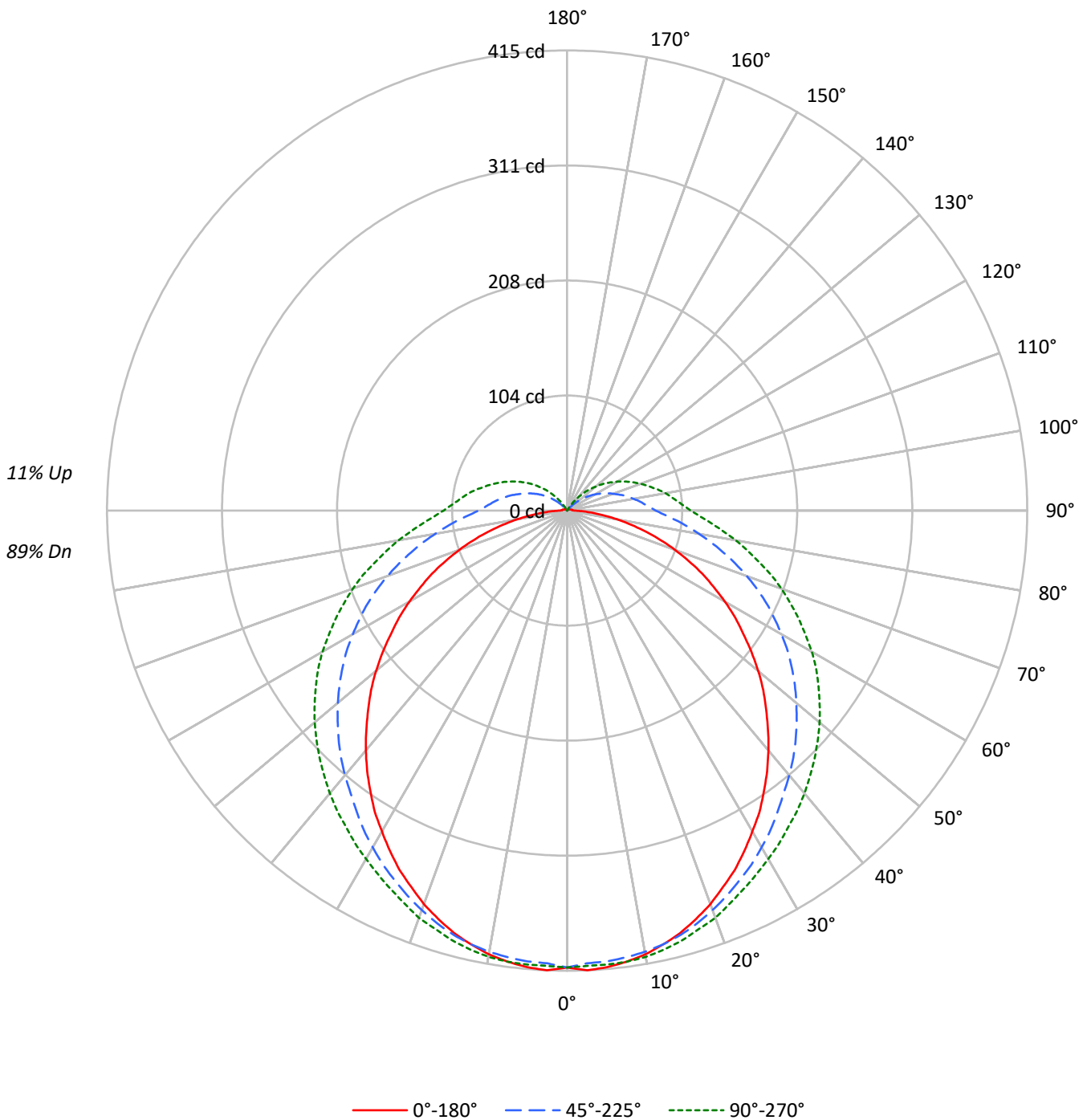
Lumens per Lamp: N/A
Luminaire Lumens: 1581.5 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): 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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	84	81	82	79	76	77	74	72	69
2	93	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	41	39
5	71	57	48	41	68	55	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7850	7850	7850
5°	7888	7527	7484
10°	7831	7278	7181
15°	7731	7022	6861
20°	7597	6743	6559
25°	7441	6468	6250
30°	7258	6210	6000
35°	7088	5954	5778
40°	6897	5733	5595
45°	6690	5535	5412
50°	6501	5331	5241
55°	6251	5139	5060
60°	6031	4928	4880
65°	5786	4713	4662
70°	5432	4457	4453
75°	5041	4184	4208
80°	4488	3913	3994
85°	3930	3705	3781

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6690 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.1	2.5
10°-20°	112.2	7.1
20°-30°	169.9	10.7
30°-40°	207.3	13.1
40°-50°	223.1	14.1
50°-60°	216.9	13.7
60°-70°	189.6	12.0
70°-80°	146.0	9.2
80°-90°	98.1	6.2
90°-100°	67.9	4.3
100°-110°	49.9	3.2
110°-120°	33.2	2.1
120°-130°	18.8	1.2
130°-140°	8.1	0.5
140°-150°	1.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	321.2	20.3
0°-40°	528.5	33.4
0°-60°	968.5	61.2
0°-90°	1402.1	88.7
90°-120°	151.0	9.5
90°-150°	179.4	11.3
90°-180°	179.0	11.3
0°-180°	1581.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	412	412	412	412	412	
5°	413	412	408	412	411	39
15°	394	396	396	401	401	111
25°	358	363	368	376	377	165
35°	309	320	331	344	348	194
45°	254	269	292	309	316	196
55°	194	217	247	270	277	174
65°	134	163	199	223	230	132
75°	74	108	146	172	179	78
85°	22	59	98	123	130	23
90°	6	41	80	104	111	4
95°	5	33	70	92	99	4
105°	3	21	53	74	80	4
115°	2	10	37	55	61	2
125°	2	1	22	37	43	1
135°	1	1	8	20	25	1
145°	1	0	0	5	7	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	412.1	412.1	412.1	412.1	412.1
2.5°	415.0	413.3	408.7	412.1	411.0
5°	413.3	411.6	408.1	411.6	411.0
7.5°	410.4	409.3	406.4	411.0	410.4
10°	406.4	405.8	404.1	408.7	408.7
12.5°	400.7	401.2	400.7	405.8	405.3
15°	394.3	396.1	396.1	401.2	401.2
17.5°	386.3	389.2	390.3	396.1	395.5
20°	377.7	381.1	383.4	389.8	390.9
22.5°	367.4	372.5	376.0	382.9	383.4
25°	357.6	363.4	367.9	376.0	376.6
27.5°	346.1	353.0	359.9	367.9	369.7
30°	334.1	342.7	350.7	360.5	362.8
32.5°	322.6	331.2	341.5	351.9	355.9
35°	309.4	319.7	331.2	343.8	347.9
37.5°	296.2	307.1	320.9	335.8	341.0
40°	282.4	295.0	311.7	327.8	332.9
42.5°	268.1	281.8	301.9	318.6	324.3
45°	253.7	269.2	291.6	309.4	315.7
47.5°	239.9	256.6	280.7	300.8	306.5
50°	225.0	243.4	269.8	290.5	297.3
52.5°	209.5	230.2	258.9	280.1	287.0
55°	194.0	217.0	247.4	269.8	276.7
57.5°	179.7	203.8	235.9	258.3	266.3
60°	164.2	190.0	223.3	246.8	254.9
62.5°	148.7	176.8	210.7	234.8	242.2
65°	134.3	163.0	198.6	222.7	230.2
67.5°	118.2	148.7	185.4	210.7	217.6
70°	103.3	135.5	172.2	197.5	205.5
72.5°	88.4	121.1	159.0	184.3	192.9
75°	74.0	107.9	145.8	171.6	179.1
77.5°	59.1	94.7	133.2	159.0	166.5
80°	45.9	81.5	120.5	146.4	154.4
82.5°	32.7	69.5	109.1	134.3	141.8
85°	22.4	59.1	98.2	122.8	130.3
87.5°	13.2	49.4	87.8	112.5	120.0
90°	6.3	41.3	79.8	103.9	111.4
92.5°	5.2	37.3	74.0	97.6	105.0
95°	4.6	33.3	69.5	92.4	99.3
97.5°	4.6	30.4	65.4	87.8	94.7
100°	4.0	27.0	60.8	82.7	90.1
102.5°	4.0	23.5	56.8	78.1	85.0
105°	3.4	20.7	52.8	73.5	79.8
107.5°	2.9	17.8	48.2	68.9	75.2
110°	2.9	14.9	44.2	64.3	70.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.3	12.6	40.8	59.7	66.0
115°	2.3	9.8	36.7	55.1	61.4
117.5°	2.3	6.9	32.7	50.5	56.8
120°	1.7	4.6	29.3	46.5	52.2
122.5°	1.7	2.9	25.3	41.9	47.6
125°	1.7	1.1	21.8	37.3	43.1
127.5°	1.1	1.1	17.8	33.3	38.5
130°	1.1	0.6	14.4	28.7	33.9
132.5°	1.1	0.6	10.9	24.7	29.3
135°	0.6	0.6	7.5	20.1	25.3
137.5°	0.6	0.6	4.0	16.1	20.1
140°	0.6	0.0	1.7	12.1	15.5
142.5°	0.6	0.0	0.0	8.0	11.5
145°	0.6	0.0	0.0	4.6	6.9
147.5°	0.0	0.0	0.0	1.1	3.4
150°	0.0	0.0	0.0	0.0	0.6
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	15.38	16.86	15.91	17.39	17.97	18.44	19.92	18.97	20.45	21.03
	3H	16.88	18.23	17.42	18.77	19.39	21.07	22.43	21.62	22.97	23.59
	4H	17.38	18.66	17.94	19.22	19.85	22.35	23.63	22.91	24.19	24.82
	6H	17.70	18.89	18.27	19.46	20.11	23.68	24.88	24.25	25.44	26.09
	8H	17.77	18.92	18.36	19.51	20.17	24.36	25.51	24.95	26.10	26.76
	12H	17.81	18.91	18.41	19.50	20.18	25.12	26.22	25.71	26.80	27.49
4H	2H	16.50	17.78	17.06	18.34	18.97	18.83	20.12	19.40	20.67	21.31
	3H	18.25	19.35	18.83	19.95	20.60	21.68	22.78	22.25	23.37	24.03
	4H	18.90	19.91	19.50	20.52	21.20	23.12	24.13	23.71	24.73	25.42
	6H	19.36	20.25	19.97	20.88	21.57	24.62	25.52	25.24	26.15	26.84
	8H	19.48	20.32	20.10	20.95	21.66	25.41	26.25	26.02	26.88	27.59
	12H	19.56	20.32	20.20	20.98	21.69	26.27	27.04	26.91	27.69	28.41
8H	4H	19.74	20.58	20.36	21.21	21.92	23.31	24.15	23.93	24.78	25.49
	6H	20.41	21.12	21.05	21.79	22.50	24.97	25.69	25.62	26.36	27.07
	8H	20.64	21.29	21.30	21.96	22.69	25.88	26.53	26.54	27.21	27.93
	12H	20.81	21.38	21.47	22.05	22.84	26.91	27.49	27.58	28.16	28.95
12H	4H	19.97	20.74	20.61	21.39	22.11	23.32	24.08	23.96	24.74	25.45
	6H	20.75	21.40	21.41	22.07	22.80	25.01	25.66	25.67	26.33	27.06
	8H	21.09	21.67	21.75	22.33	23.12	25.98	26.56	26.64	27.22	28.01