

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: P243206

Luminaire Tested: S122DRP-H865D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243206  
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-H865D935-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: -

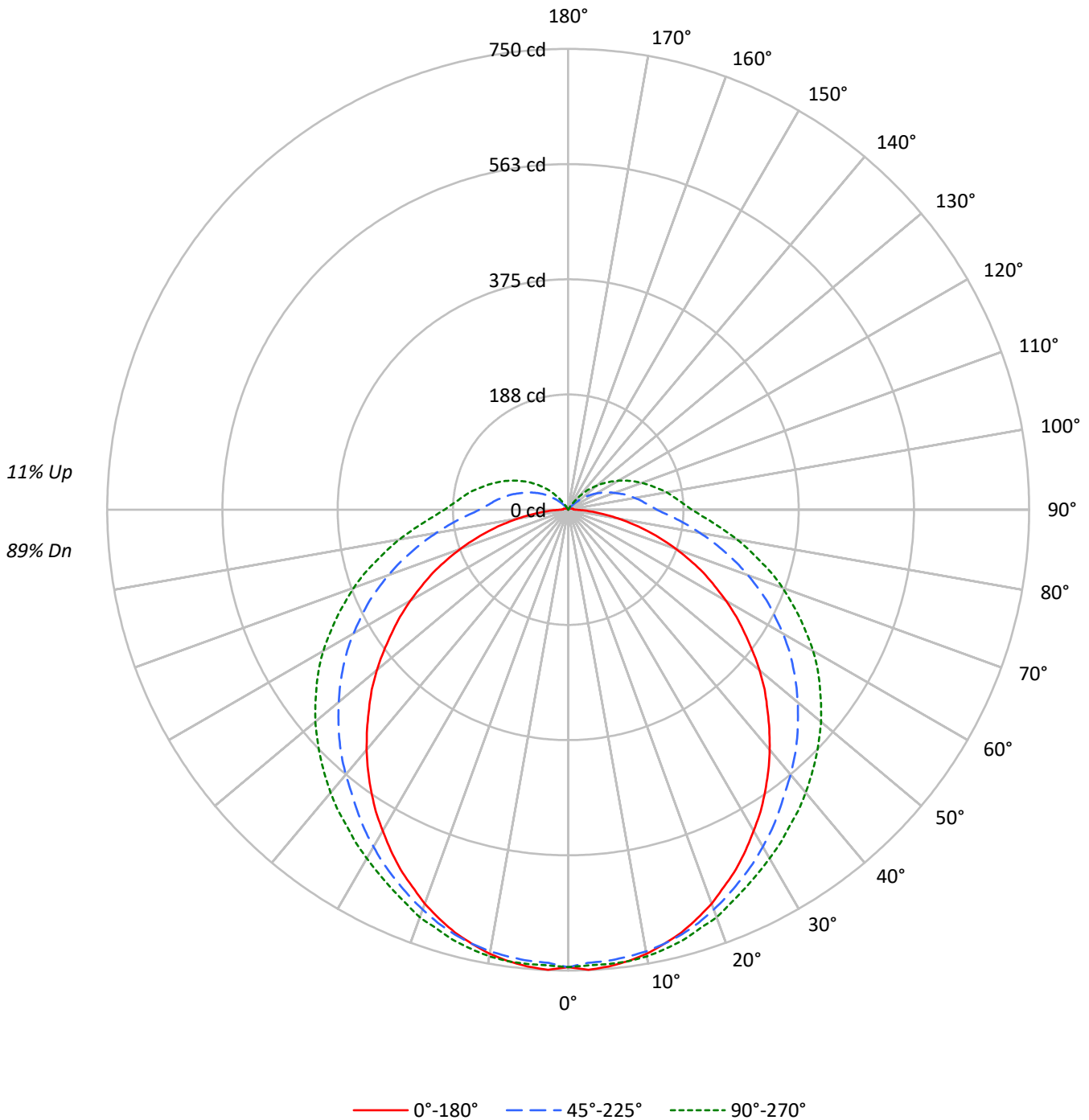
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2856.3 lumens  
Efficiency: N/A  
Efficacy: 90.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 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): 31.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	14179	14179	14179
5°	14245	13595	13517
10°	14143	13146	12971
15°	13964	12681	12393
20°	13721	12179	11847
25°	13440	11682	11286
30°	13109	11216	10836
35°	12801	10753	10435
40°	12459	10354	10106
45°	12083	9997	9775
50°	11742	9629	9466
55°	11290	9281	9138
60°	10890	8901	8813
65°	10452	8513	8419
70°	9812	8049	8042
75°	9109	7556	7600
80°	8105	7070	7214
85°	7087	6690	6828

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12083 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.6	2.5
10°-20°	202.6	7.1
20°-30°	306.9	10.7
30°-40°	374.4	13.1
40°-50°	402.9	14.1
50°-60°	391.7	13.7
60°-70°	342.4	12.0
70°-80°	263.6	9.2
80°-90°	177.1	6.2
90°-100°	122.6	4.3
100°-110°	90.2	3.2
110°-120°	60.0	2.1
120°-130°	34.0	1.2
130°-140°	14.6	0.5
140°-150°	2.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	580.2	20.3
0°-40°	954.5	33.4
0°-60°	1749.1	61.2
0°-90°	2532.3	88.7
90°-120°	272.7	9.5
90°-150°	324.0	11.3
90°-180°	324.0	11.3
0°-180°	2856.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	744	744	744	744	744	
5°	746	743	737	743	742	71
15°	712	715	715	725	725	201
25°	646	656	664	679	680	297
35°	559	578	598	621	628	350
45°	458	486	527	559	570	354
55°	350	392	447	487	500	314
65°	243	294	359	402	416	239
75°	134	195	263	310	324	141
85°	40	107	177	222	235	42
90°	11	75	144	188	201	8
95°	8	60	125	167	179	7
105°	6	37	95	133	144	7
115°	4	18	66	100	111	4
125°	3	2	39	67	78	2
135°	1	1	14	36	46	1
145°	1	0	0	8	12	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°	744.4	744.4	744.4	744.4	744.4
2.5°	749.6	746.4	738.2	744.4	742.3
5°	746.4	743.3	737.1	743.3	742.3
7.5°	741.3	739.2	734.0	742.3	741.3
10°	734.0	733.0	729.9	738.2	738.2
12.5°	723.6	724.7	723.6	733.0	731.9
15°	712.2	715.3	715.3	724.7	724.7
17.5°	697.7	702.9	705.0	715.3	714.3
20°	682.2	688.4	692.5	703.9	706.0
22.5°	663.5	672.8	679.1	691.5	692.5
25°	645.9	656.3	664.5	679.1	680.1
27.5°	625.1	637.6	650.0	664.5	667.7
30°	603.4	618.9	633.4	651.1	655.2
32.5°	582.6	598.2	616.9	635.5	642.8
35°	558.8	577.5	598.2	621.0	628.3
37.5°	535.0	554.7	579.5	606.5	615.8
40°	510.1	532.9	562.9	592.0	601.3
42.5°	484.2	509.0	545.3	575.4	585.8
45°	458.2	486.2	526.7	558.8	570.2
47.5°	433.4	463.4	507.0	543.2	553.6
50°	406.4	439.6	487.3	524.6	537.0
52.5°	378.4	415.7	467.6	505.9	518.4
55°	350.4	391.9	446.8	487.3	499.7
57.5°	324.5	368.0	426.1	466.5	481.0
60°	296.5	343.2	403.3	445.8	460.3
62.5°	268.5	319.3	380.5	424.0	437.5
65°	242.6	294.4	358.7	402.3	415.7
67.5°	213.6	268.5	334.9	380.5	392.9
70°	186.6	244.7	311.0	356.6	371.1
72.5°	159.7	218.8	287.2	332.8	348.3
75°	133.7	194.9	263.3	310.0	323.5
77.5°	106.8	171.1	240.5	287.2	300.7
80°	82.9	147.2	217.7	264.4	278.9
82.5°	59.1	125.4	197.0	242.6	256.1
85°	40.4	106.8	177.3	221.9	235.3
87.5°	23.8	89.2	158.6	203.2	216.7
90°	11.4	74.6	144.1	187.6	201.1
92.5°	9.3	67.4	133.7	176.2	189.7
95°	8.3	60.1	125.4	166.9	179.4
97.5°	8.3	54.9	118.2	158.6	171.1
100°	7.3	48.7	109.9	149.3	162.8
102.5°	7.3	42.5	102.6	141.0	153.4
105°	6.2	37.3	95.4	132.7	144.1
107.5°	5.2	32.1	87.1	124.4	135.8
110°	5.2	27.0	79.8	116.1	127.5



TEST NUMBER: P243206

CATALOG NUMBER: S122DRP-H865D935-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	4.1	22.8	73.6	107.8	119.2
115°	4.1	17.6	66.4	99.5	110.9
117.5°	4.1	12.4	59.1	91.2	102.6
120°	3.1	8.3	52.9	84.0	94.3
122.5°	3.1	5.2	45.6	75.7	86.0
125°	3.1	2.1	39.4	67.4	77.8
127.5°	2.1	2.1	32.1	60.1	69.5
130°	2.1	1.0	25.9	51.8	61.2
132.5°	2.1	1.0	19.7	44.6	52.9
135°	1.0	1.0	13.5	36.3	45.6
137.5°	1.0	1.0	7.3	29.0	36.3
140°	1.0	0.0	3.1	21.8	28.0
142.5°	1.0	0.0	0.0	14.5	20.7
145°	1.0	0.0	0.0	8.3	12.4
147.5°	0.0	0.0	0.0	2.1	6.2
150°	0.0	0.0	0.0	0.0	1.0
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	17.43	18.91	17.96	19.44	20.02	20.49	21.97	21.02	22.50	23.08
	3H	18.93	20.28	19.47	20.82	21.44	23.13	24.48	23.67	25.02	25.64
	4H	19.43	20.72	19.99	21.27	21.91	24.41	25.69	24.97	26.24	26.88
	6H	19.75	20.95	20.33	21.52	22.17	25.73	26.93	26.31	27.50	28.15
	8H	19.83	20.98	20.41	21.57	22.22	26.42	27.56	27.00	28.16	28.81
	12H	19.87	20.97	20.46	21.55	22.24	27.17	28.27	27.76	28.86	29.54
4H	2H	18.55	19.83	19.11	20.39	21.02	20.89	22.17	21.45	22.73	23.36
	3H	20.31	21.41	20.88	22.00	22.66	23.73	24.83	24.31	25.43	26.08
	4H	20.96	21.97	21.55	22.57	23.26	25.17	26.18	25.76	26.79	27.47
	6H	21.41	22.30	22.02	22.93	23.63	26.68	27.57	27.29	28.20	28.90
	8H	21.54	22.38	22.15	23.01	23.72	27.46	28.30	28.08	28.93	29.64
	12H	21.61	22.38	22.25	23.03	23.75	28.33	29.09	28.97	29.75	30.46
8H	4H	21.80	22.64	22.41	23.27	23.98	25.37	26.21	25.98	26.84	27.55
	6H	22.46	23.18	23.11	23.84	24.56	27.03	27.74	27.68	28.41	29.13
	8H	22.69	23.34	23.35	24.02	24.74	27.94	28.58	28.60	29.26	29.99
	12H	22.86	23.44	23.52	24.10	24.89	28.97	29.55	29.63	30.21	31.00
12H	4H	22.03	22.79	22.67	23.45	24.16	25.37	26.14	26.01	26.79	27.51
	6H	22.80	23.45	23.46	24.13	24.86	27.06	27.71	27.72	28.39	29.11
	8H	23.14	23.72	23.81	24.39	25.18	28.03	28.61	28.69	29.28	30.07