

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: P242340

Luminaire Tested: S122DRP-S675D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242340  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S675D930-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

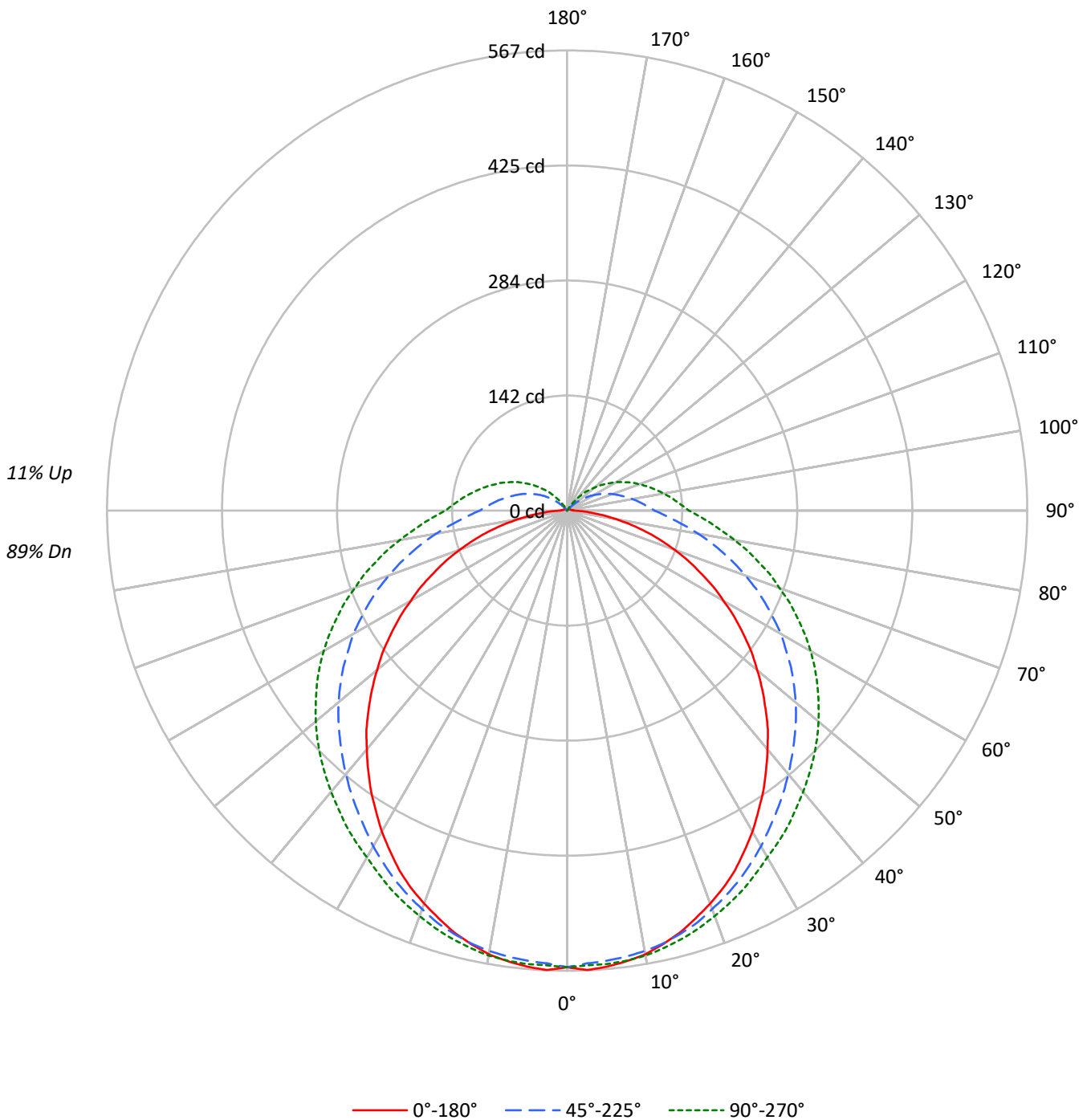
Lumens per Lamp: N/A  
Luminaire Lumens: 2146.5 lumens  
Efficiency: N/A  
Efficacy: 81.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 26.4  
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	85	81	82	79	77	77	75	72	69
2	94	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	42	39
5	71	57	48	41	68	56	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	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	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°	10716	10716	10716
5°	10768	10270	10214
10°	10698	9925	9784
15°	10550	9568	9342
20°	10364	9191	8920
25°	10179	8829	8538
30°	9919	8461	8158
35°	9656	8105	7881
40°	9379	7799	7605
45°	9116	7520	7366
50°	8832	7266	7129
55°	8538	6994	6888
60°	8176	6711	6634
65°	7798	6384	6341
70°	7372	6035	6024
75°	6833	5685	5728
80°	5974	5323	5419
85°	5158	4984	5157

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9116 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.3	2.5
10°-20°	153.0	7.1
20°-30°	231.8	10.8
30°-40°	282.2	13.1
40°-50°	303.6	14.1
50°-60°	294.9	13.7
60°-70°	257.5	12.0
70°-80°	198.2	9.2
80°-90°	132.7	6.2
90°-100°	91.6	4.3
100°-110°	66.9	3.1
110°-120°	44.2	2.1
120°-130°	24.6	1.1
130°-140°	10.3	0.5
140°-150°	1.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	438.0	20.4
0°-40°	720.3	33.6
0°-60°	1318.8	61.4
0°-90°	1907.2	88.9
90°-120°	202.6	9.4
90°-150°	239.3	11.1
90°-180°	239.0	11.1
0°-180°	2146.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	563	563	563	563	563	
5°	564	562	557	562	561	54
15°	538	540	540	547	546	152
25°	489	495	502	512	514	225
35°	422	435	451	469	474	263
45°	346	368	396	422	430	267
55°	265	294	337	366	377	237
65°	181	221	269	302	313	180
75°	100	146	198	233	244	106
85°	29	80	132	166	178	31
90°	8	55	108	140	150	6
95°	6	45	94	125	134	5
105°	4	28	70	99	108	5
115°	3	12	49	73	82	3
125°	2	2	28	50	57	2
135°	1	1	9	26	33	1
145°	0	0	0	5	9	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°	562.6	562.6	562.6	562.6	562.6
2.5°	566.6	564.2	558.5	562.6	560.9
5°	564.2	561.7	556.8	561.7	560.9
7.5°	560.1	558.5	554.4	560.1	559.3
10°	555.2	553.6	551.1	557.7	556.8
12.5°	547.1	547.9	546.3	552.8	552.0
15°	538.1	539.7	539.7	547.1	546.3
17.5°	526.7	529.9	532.4	539.7	539.7
20°	515.3	519.3	522.6	531.6	531.6
22.5°	503.0	507.9	512.8	521.8	523.4
25°	489.2	494.9	502.2	512.0	514.5
27.5°	472.9	481.8	490.0	502.2	503.9
30°	456.6	467.2	477.8	490.8	493.3
32.5°	438.6	450.9	463.9	479.4	484.3
35°	421.5	435.4	450.9	468.8	474.5
37.5°	402.8	418.2	437.8	457.4	463.1
40°	384.0	401.9	424.0	445.2	452.5
42.5°	366.1	384.0	410.1	433.7	441.1
45°	345.7	367.7	396.2	421.5	429.7
47.5°	326.1	349.8	382.4	408.5	417.4
50°	305.7	331.0	367.7	395.4	404.4
52.5°	286.2	313.1	352.2	380.7	390.5
55°	265.0	294.3	336.7	366.1	376.7
57.5°	244.6	277.2	319.6	351.4	362.0
60°	222.6	257.6	304.1	335.1	346.5
62.5°	203.0	239.7	286.2	319.6	330.2
65°	181.0	220.9	269.0	302.5	313.1
67.5°	161.4	203.0	251.9	285.4	296.8
70°	140.2	182.6	233.2	268.2	278.0
72.5°	120.7	164.7	216.1	250.3	262.5
75°	100.3	145.9	198.1	233.2	243.8
77.5°	80.7	128.0	181.0	216.1	227.5
80°	61.1	110.9	163.9	198.1	209.5
82.5°	44.8	93.8	147.6	181.8	192.4
85°	29.4	79.9	132.1	166.3	177.7
87.5°	17.9	66.9	119.0	152.5	163.1
90°	8.2	55.4	107.6	140.2	150.0
92.5°	7.3	50.5	100.3	132.1	141.9
95°	6.5	44.8	93.8	124.7	134.5
97.5°	5.7	40.8	88.1	118.2	128.0
100°	5.7	35.9	81.5	111.7	120.7
102.5°	4.9	31.8	75.8	105.2	114.1
105°	4.1	27.7	70.1	98.7	107.6
107.5°	4.1	23.6	64.4	92.1	101.1
110°	3.3	19.6	59.5	85.6	94.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.3	16.3	53.8	79.9	88.9
115°	3.3	12.2	48.9	73.4	82.3
117.5°	2.4	9.0	43.2	67.7	75.8
120°	2.4	5.7	38.3	61.1	70.1
122.5°	2.4	3.3	33.4	55.4	62.8
125°	1.6	1.6	27.7	49.7	57.1
127.5°	1.6	0.8	22.8	43.2	50.5
130°	1.6	0.8	17.9	37.5	44.0
132.5°	1.6	0.8	13.0	31.8	38.3
135°	0.8	0.8	9.0	26.1	32.6
137.5°	0.8	0.8	4.9	20.4	26.1
140°	0.8	0.0	1.6	14.7	19.6
142.5°	0.8	0.0	0.0	9.8	13.9
145°	0.0	0.0	0.0	4.9	9.0
147.5°	0.0	0.0	0.0	0.8	3.3
150°	0.0	0.0	0.0	0.0	0.0
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	16.46	17.94	16.99	18.47	19.05	19.52	21.00	20.05	21.53	22.11
	3H	17.96	19.31	18.50	19.85	20.47	22.15	23.50	22.69	24.04	24.66
	4H	18.46	19.75	19.02	20.30	20.93	23.43	24.72	23.99	25.27	25.90
	6H	18.78	19.97	19.35	20.54	21.18	24.76	25.96	25.33	26.53	27.17
	8H	18.85	20.00	19.43	20.59	21.24	25.44	26.59	26.03	27.18	27.83
	12H	18.89	19.99	19.48	20.57	21.25	26.20	27.30	26.79	27.88	28.56
4H	2H	17.57	18.86	18.13	19.41	20.04	19.91	21.20	20.47	21.75	22.38
	3H	19.33	20.43	19.90	21.02	21.67	22.75	23.85	23.32	24.45	25.10
	4H	19.97	20.98	20.56	21.58	22.27	24.19	25.21	24.79	25.81	26.49
	6H	20.42	21.32	21.03	21.94	22.64	25.70	26.60	26.31	27.22	27.92
	8H	20.55	21.39	21.16	22.02	22.72	26.48	27.32	27.10	27.95	28.66
	12H	20.62	21.39	21.26	22.04	22.75	27.35	28.12	27.99	28.77	29.48
8H	4H	20.81	21.66	21.43	22.28	22.99	24.39	25.23	25.00	25.86	26.56
	6H	21.47	22.19	22.12	22.86	23.57	26.05	26.77	26.70	27.43	28.15
	8H	21.71	22.35	22.36	23.03	23.75	26.96	27.60	27.61	28.28	29.00
	12H	21.87	22.45	22.53	23.11	23.90	27.99	28.57	28.65	29.23	30.02
12H	4H	21.04	21.81	21.68	22.46	23.18	24.39	25.16	25.03	25.81	26.53
	6H	21.82	22.47	22.48	23.14	23.86	26.08	26.73	26.74	27.41	28.13
	8H	22.16	22.73	22.82	23.40	24.18	27.05	27.63	27.71	28.29	29.08