

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: P243181

Luminaire Tested: S122DRP-H675D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243181
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-H675D927-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

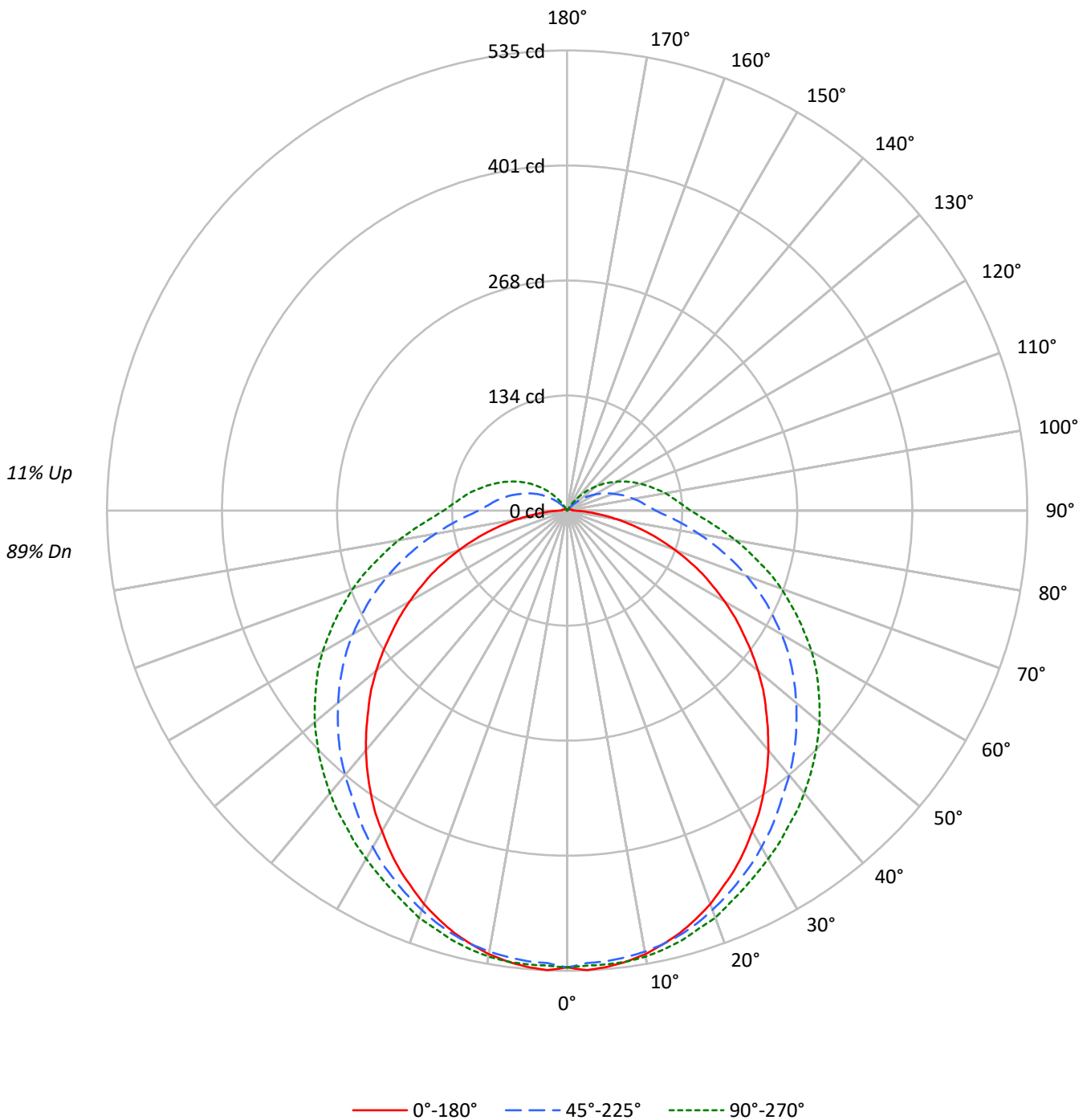
Lumens per Lamp: N/A
Luminaire Lumens: 2037.9 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 23.6
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°	10116	10116	10116
5°	10163	9700	9644
10°	10091	9378	9253
15°	9962	9048	8841
20°	9789	8690	8452
25°	9588	8335	8052
30°	9352	8002	7732
35°	9133	7672	7444
40°	8888	7387	7210
45°	8620	7131	6973
50°	8376	6869	6753
55°	8055	6622	6519
60°	7768	6349	6288
65°	7458	6073	6007
70°	6999	5743	5738
75°	6499	5392	5422
80°	5788	5043	5148
85°	5052	4773	4872

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8620 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.4	2.5
10°-20°	144.6	7.1
20°-30°	219.0	10.7
30°-40°	267.1	13.1
40°-50°	287.4	14.1
50°-60°	279.4	13.7
60°-70°	244.3	12.0
70°-80°	188.1	9.2
80°-90°	126.4	6.2
90°-100°	87.5	4.3
100°-110°	64.3	3.2
110°-120°	42.8	2.1
120°-130°	24.2	1.2
130°-140°	10.4	0.5
140°-150°	1.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	413.9	20.3
0°-40°	681.0	33.4
0°-60°	1247.9	61.2
0°-90°	1806.7	88.7
90°-120°	194.6	9.5
90°-150°	231.2	11.3
90°-180°	231.0	11.3
0°-180°	2037.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	531	531	531	531	531	
5°	532	530	526	530	530	51
15°	508	510	510	517	517	143
25°	461	468	474	484	485	212
35°	399	412	427	443	448	249
45°	327	347	376	399	407	253
55°	250	280	319	348	356	224
65°	173	210	256	287	297	171
75°	95	139	188	221	231	101
85°	29	76	126	158	168	30
90°	8	53	103	134	144	5
95°	6	43	90	119	128	5
105°	4	27	68	95	103	5
115°	3	13	47	71	79	3
125°	2	2	28	48	56	2
135°	1	1	10	26	32	1
145°	1	0	0	6	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°	531.1	531.1	531.1	531.1	531.1
2.5°	534.8	532.5	526.6	531.1	529.6
5°	532.5	530.3	525.9	530.3	529.6
7.5°	528.8	527.4	523.7	529.6	528.8
10°	523.7	522.9	520.7	526.6	526.6
12.5°	516.3	517.0	516.3	522.9	522.2
15°	508.1	510.4	510.4	517.0	517.0
17.5°	497.8	501.5	503.0	510.4	509.6
20°	486.7	491.1	494.1	502.2	503.7
22.5°	473.4	480.0	484.5	493.3	494.1
25°	460.8	468.2	474.1	484.5	485.2
27.5°	446.0	454.9	463.8	474.1	476.3
30°	430.5	441.6	451.9	464.5	467.5
32.5°	415.7	426.8	440.1	453.4	458.6
35°	398.7	412.0	426.8	443.0	448.2
37.5°	381.7	395.7	413.5	432.7	439.3
40°	363.9	380.2	401.6	422.3	429.0
42.5°	345.4	363.2	389.1	410.5	417.9
45°	326.9	346.9	375.7	398.7	406.8
47.5°	309.2	330.6	361.7	387.6	395.0
50°	289.9	313.6	347.6	374.3	383.1
52.5°	270.0	296.6	333.6	360.9	369.8
55°	250.0	279.6	318.8	347.6	356.5
57.5°	231.5	262.6	304.0	332.8	343.2
60°	211.5	244.8	287.7	318.0	328.4
62.5°	191.6	227.8	271.4	302.5	312.1
65°	173.1	210.1	255.9	287.0	296.6
67.5°	152.4	191.6	238.9	271.4	280.3
70°	133.1	174.6	221.9	254.4	264.8
72.5°	113.9	156.1	204.9	237.4	248.5
75°	95.4	139.1	187.9	221.2	230.8
77.5°	76.2	122.0	171.6	204.9	214.5
80°	59.2	105.0	155.3	188.6	199.0
82.5°	42.2	89.5	140.5	173.1	182.7
85°	28.8	76.2	126.5	158.3	167.9
87.5°	17.0	63.6	113.2	145.0	154.6
90°	8.1	53.3	102.8	133.9	143.5
92.5°	6.7	48.1	95.4	125.7	135.4
95°	5.9	42.9	89.5	119.1	128.0
97.5°	5.9	39.2	84.3	113.2	122.0
100°	5.2	34.8	78.4	106.5	116.1
102.5°	5.2	30.3	73.2	100.6	109.5
105°	4.4	26.6	68.0	94.7	102.8
107.5°	3.7	22.9	62.1	88.8	96.9
110°	3.7	19.2	57.0	82.8	91.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.0	16.3	52.5	76.9	85.1
115°	3.0	12.6	47.3	71.0	79.1
117.5°	3.0	8.9	42.2	65.1	73.2
120°	2.2	5.9	37.7	59.9	67.3
122.5°	2.2	3.7	32.5	54.0	61.4
125°	2.2	1.5	28.1	48.1	55.5
127.5°	1.5	1.5	22.9	42.9	49.6
130°	1.5	0.7	18.5	37.0	43.6
132.5°	1.5	0.7	14.1	31.8	37.7
135°	0.7	0.7	9.6	25.9	32.5
137.5°	0.7	0.7	5.2	20.7	25.9
140°	0.7	0.0	2.2	15.5	20.0
142.5°	0.7	0.0	0.0	10.4	14.8
145°	0.7	0.0	0.0	5.9	8.9
147.5°	0.0	0.0	0.0	1.5	4.4
150°	0.0	0.0	0.0	0.0	0.7
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	16.26	17.74	16.79	18.27	18.85	19.32	20.80	19.85	21.33	21.91
	3H	17.76	19.11	18.30	19.65	20.27	21.95	23.30	22.49	23.85	24.47
	4H	18.26	19.55	18.82	20.10	20.73	23.23	24.51	23.79	25.07	25.70
	6H	18.58	19.78	19.15	20.34	20.99	24.56	25.76	25.13	26.32	26.97
	8H	18.66	19.80	19.24	20.39	21.05	25.24	26.39	25.83	26.98	27.64
	12H	18.70	19.80	19.29	20.38	21.07	26.00	27.10	26.59	27.68	28.37
4H	2H	17.38	18.66	17.94	19.22	19.85	19.71	21.00	20.28	21.55	22.19
	3H	19.14	20.23	19.71	20.83	21.48	22.56	23.66	23.13	24.25	24.91
	4H	19.78	20.79	20.38	21.40	22.08	24.00	25.01	24.59	25.61	26.30
	6H	20.24	21.13	20.85	21.76	22.46	25.50	26.40	26.12	27.03	27.72
	8H	20.36	21.20	20.98	21.83	22.54	26.29	27.13	26.90	27.76	28.47
	12H	20.44	21.21	21.08	21.86	22.58	27.15	27.92	27.79	28.57	29.29
8H	4H	20.62	21.47	21.24	22.09	22.80	24.19	25.03	24.81	25.66	26.37
	6H	21.29	22.00	21.93	22.67	23.39	25.85	26.57	26.50	27.24	27.95
	8H	21.52	22.17	22.18	22.84	23.57	26.76	27.41	27.42	28.09	28.81
	12H	21.69	22.27	22.35	22.93	23.72	27.80	28.37	28.46	29.04	29.83
12H	4H	20.86	21.62	21.49	22.28	22.99	24.20	24.96	24.84	25.62	26.33
	6H	21.63	22.28	22.29	22.96	23.68	25.89	26.54	26.55	27.21	27.94
	8H	21.97	22.55	22.63	23.21	24.00	26.86	27.44	27.52	28.10	28.89