

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: P243200

Luminaire Tested: S122DRP-H675D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243200
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-H675D930-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

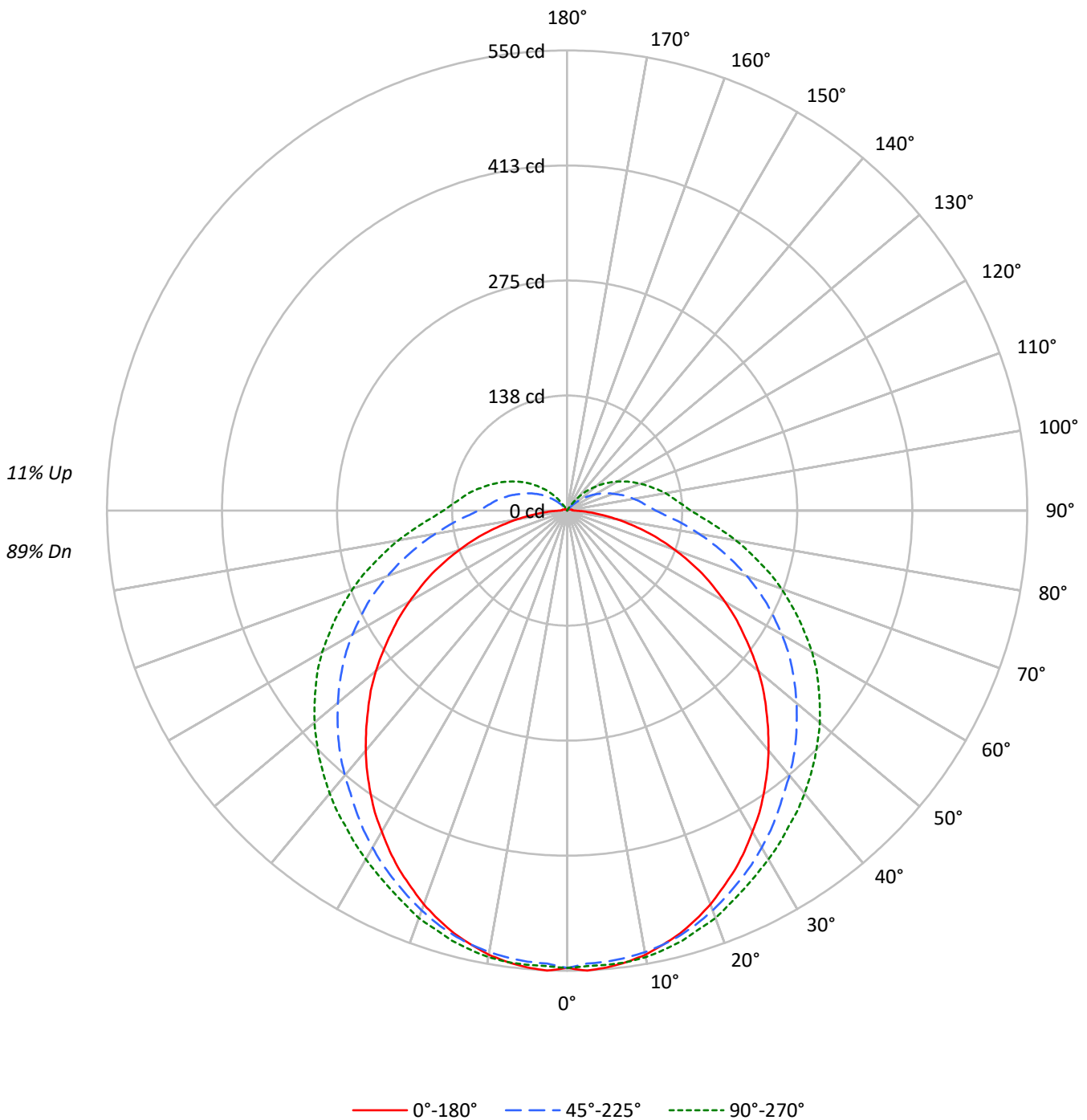
Lumens per Lamp: N/A
Luminaire Lumens: 2097.4 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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°	10411	10411	10411
5°	10460	9982	9925
10°	10386	9652	9524
15°	10254	9311	9100
20°	10074	8943	8699
25°	9867	8577	8288
30°	9624	8236	7957
35°	9399	7895	7661
40°	9147	7602	7420
45°	8874	7340	7177
50°	8622	7070	6951
55°	8290	6815	6709
60°	7996	6535	6471
65°	7673	6251	6183
70°	7204	5911	5905
75°	6690	5550	5580
80°	5954	5193	5298
85°	5210	4913	5014

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8874 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	2.5
10°-20°	148.8	7.1
20°-30°	225.4	10.7
30°-40°	274.9	13.1
40°-50°	295.8	14.1
50°-60°	287.6	13.7
60°-70°	251.5	12.0
70°-80°	193.6	9.2
80°-90°	130.1	6.2
90°-100°	90.0	4.3
100°-110°	66.2	3.2
110°-120°	44.0	2.1
120°-130°	24.9	1.2
130°-140°	10.7	0.5
140°-150°	2.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	426.0	20.3
0°-40°	700.9	33.4
0°-60°	1284.3	61.2
0°-90°	1859.4	88.7
90°-120°	200.3	9.5
90°-150°	237.9	11.3
90°-180°	238.0	11.3
0°-180°	2097.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	548	546	541	546	545	52
15°	523	525	525	532	532	147
25°	474	482	488	499	499	218
35°	410	424	439	456	461	257
45°	336	357	387	410	419	260
55°	257	288	328	358	367	231
65°	178	216	263	295	305	176
75°	98	143	193	228	238	104
85°	30	78	130	163	173	31
90°	8	55	106	138	148	6
95°	6	44	92	123	132	5
105°	5	27	70	97	106	5
115°	3	13	49	73	82	3
125°	2	2	29	50	57	2
135°	1	1	10	27	34	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°	546.6	546.6	546.6	546.6	546.6
2.5°	550.4	548.1	542.0	546.6	545.0
5°	548.1	545.8	541.2	545.8	545.0
7.5°	544.3	542.8	539.0	545.0	544.3
10°	539.0	538.2	535.9	542.0	542.0
12.5°	531.3	532.1	531.3	538.2	537.4
15°	523.0	525.2	525.2	532.1	532.1
17.5°	512.3	516.1	517.6	525.2	524.5
20°	500.9	505.5	508.5	516.9	518.4
22.5°	487.2	494.0	498.6	507.7	508.5
25°	474.2	481.9	487.9	498.6	499.4
27.5°	459.0	468.2	477.3	487.9	490.2
30°	443.0	454.5	465.1	478.1	481.1
32.5°	427.8	439.2	452.9	466.6	472.0
35°	410.3	424.0	439.2	456.0	461.3
37.5°	392.8	407.3	425.5	445.3	452.2
40°	374.5	391.3	413.3	434.7	441.5
42.5°	355.5	373.8	400.4	422.5	430.1
45°	336.5	357.0	386.7	410.3	418.7
47.5°	318.2	340.3	372.2	398.9	406.5
50°	298.4	322.8	357.8	385.2	394.3
52.5°	277.8	305.3	343.3	371.5	380.6
55°	257.3	287.7	328.1	357.8	366.9
57.5°	238.3	270.2	312.9	342.6	353.2
60°	217.7	252.0	296.1	327.3	338.0
62.5°	197.2	234.5	279.4	311.3	321.2
65°	178.1	216.2	263.4	295.4	305.3
67.5°	156.8	197.2	245.9	279.4	288.5
70°	137.0	179.7	228.4	261.9	272.5
72.5°	117.2	160.6	210.9	244.4	255.8
75°	98.2	143.1	193.4	227.6	237.5
77.5°	78.4	125.6	176.6	210.9	220.8
80°	60.9	108.1	159.9	194.1	204.8
82.5°	43.4	92.1	144.6	178.1	188.0
85°	29.7	78.4	130.2	162.9	172.8
87.5°	17.5	65.5	116.5	149.2	159.1
90°	8.4	54.8	105.8	137.8	147.7
92.5°	6.9	49.5	98.2	129.4	139.3
95°	6.1	44.2	92.1	122.6	131.7
97.5°	6.1	40.3	86.8	116.5	125.6
100°	5.3	35.8	80.7	109.6	119.5
102.5°	5.3	31.2	75.4	103.5	112.7
105°	4.6	27.4	70.0	97.4	105.8
107.5°	3.8	23.6	63.9	91.3	99.7
110°	3.8	19.8	58.6	85.3	93.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.0	16.7	54.0	79.2	87.5
115°	3.0	12.9	48.7	73.1	81.5
117.5°	3.0	9.1	43.4	67.0	75.4
120°	2.3	6.1	38.8	61.7	69.3
122.5°	2.3	3.8	33.5	55.6	63.2
125°	2.3	1.5	28.9	49.5	57.1
127.5°	1.5	1.5	23.6	44.2	51.0
130°	1.5	0.8	19.0	38.1	44.9
132.5°	1.5	0.8	14.5	32.7	38.8
135°	0.8	0.8	9.9	26.6	33.5
137.5°	0.8	0.8	5.3	21.3	26.6
140°	0.8	0.0	2.3	16.0	20.6
142.5°	0.8	0.0	0.0	10.7	15.2
145°	0.8	0.0	0.0	6.1	9.1
147.5°	0.0	0.0	0.0	1.5	4.6
150°	0.0	0.0	0.0	0.0	0.8
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	16.36	17.83	16.89	18.37	18.95	19.42	20.90	19.95	21.43	22.01
	3H	17.86	19.21	18.40	19.75	20.37	22.06	23.41	22.60	23.95	24.57
	4H	18.36	19.64	18.92	20.20	20.83	23.33	24.62	23.89	25.17	25.80
	6H	18.68	19.87	19.25	20.44	21.09	24.66	25.86	25.23	26.42	27.07
	8H	18.76	19.90	19.34	20.49	21.15	25.34	26.49	25.93	27.08	27.74
	12H	18.79	19.89	19.39	20.48	21.16	26.10	27.20	26.69	27.78	28.47
4H	2H	17.48	18.76	18.04	19.32	19.95	19.82	21.10	20.38	21.65	22.29
	3H	19.23	20.33	19.81	20.93	21.58	22.66	23.76	23.23	24.35	25.01
	4H	19.88	20.89	20.48	21.50	22.18	24.10	25.11	24.69	25.71	26.40
	6H	20.34	21.23	20.95	21.86	22.56	25.60	26.50	26.22	27.13	27.82
	8H	20.46	21.30	21.08	21.93	22.64	26.39	27.23	27.00	27.86	28.57
	12H	20.54	21.31	21.18	21.96	22.68	27.25	28.02	27.89	28.67	29.39
8H	4H	20.72	21.57	21.34	22.19	22.90	24.29	25.14	24.91	25.76	26.47
	6H	21.39	22.10	22.03	22.77	23.49	25.95	26.67	26.60	27.34	28.05
	8H	21.62	22.27	22.28	22.94	23.67	26.86	27.51	27.52	28.19	28.91
	12H	21.79	22.37	22.45	23.03	23.82	27.89	28.47	28.56	29.14	29.93
12H	4H	20.95	21.72	21.59	22.38	23.09	24.30	25.07	24.94	25.72	26.44
	6H	21.73	22.38	22.39	23.06	23.78	25.99	26.64	26.65	27.31	28.04
	8H	22.07	22.65	22.73	23.31	24.10	26.96	27.54	27.62	28.20	28.99