

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: P243186

Luminaire Tested: S122DRP-H675D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243186
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-H675D830-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

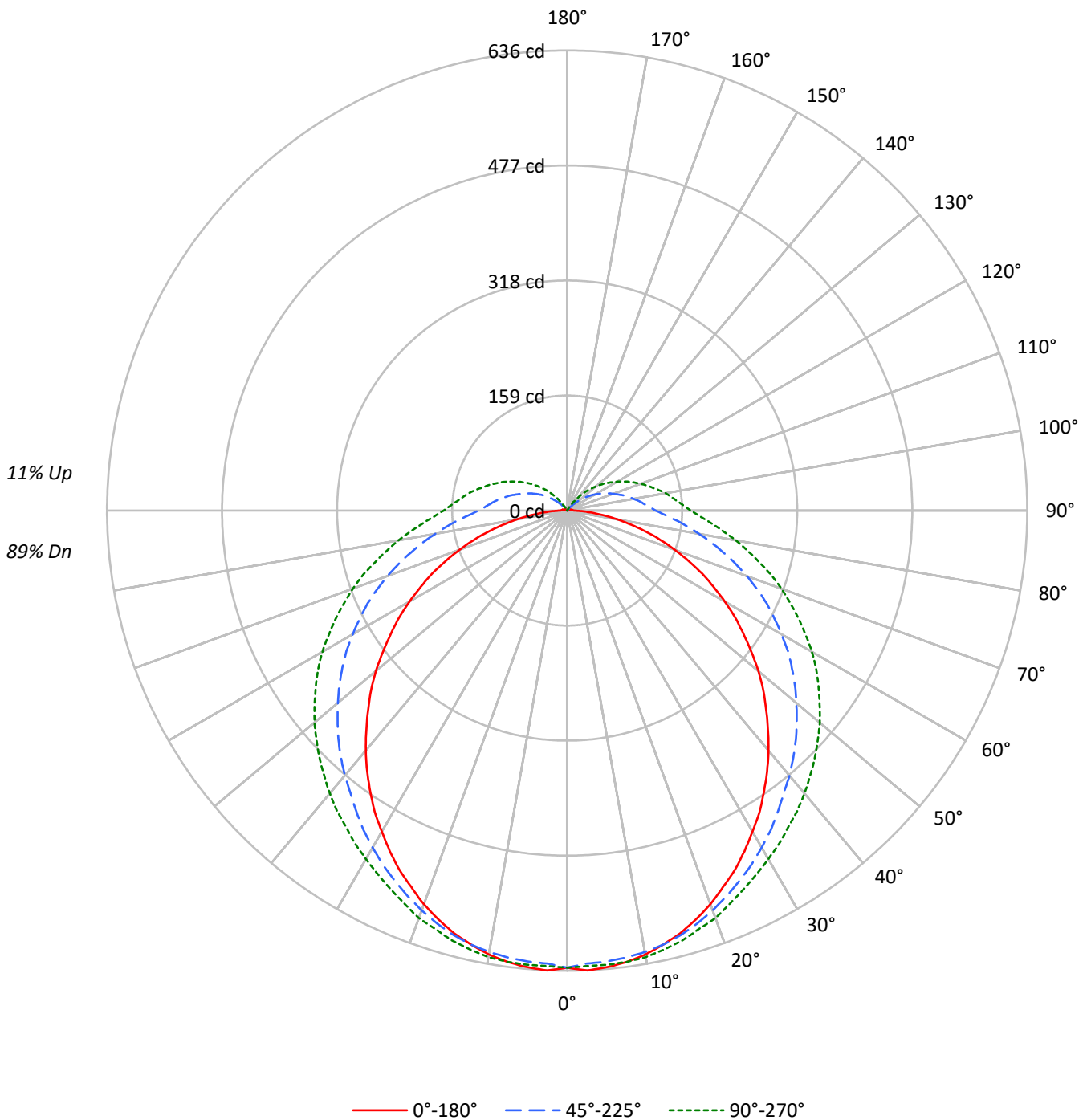
Lumens per Lamp: N/A
Luminaire Lumens: 2424.6 lumens
Efficiency: N/A
Efficacy: 102.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 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°	12036	12036	12036
5°	12092	11540	11474
10°	12006	11157	11010
15°	11854	10765	10519
20°	11647	10339	10056
25°	11409	9917	9580
30°	11127	9522	9199
35°	10865	9128	8857
40°	10576	8791	8578
45°	10258	8486	8297
50°	9968	8173	8037
55°	9585	7879	7757
60°	9244	7554	7480
65°	8871	7227	7147
70°	8329	6832	6828
75°	7732	6413	6451
80°	6883	6001	6123
85°	6017	5679	5798

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10258 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.9	2.5
10°-20°	172.0	7.1
20°-30°	260.5	10.7
30°-40°	317.8	13.1
40°-50°	342.0	14.1
50°-60°	332.5	13.7
60°-70°	290.7	12.0
70°-80°	223.8	9.2
80°-90°	150.4	6.2
90°-100°	104.1	4.3
100°-110°	76.5	3.2
110°-120°	50.9	2.1
120°-130°	28.8	1.2
130°-140°	12.4	0.5
140°-150°	2.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	492.5	20.3
0°-40°	810.3	33.4
0°-60°	1484.7	61.2
0°-90°	2149.6	88.7
90°-120°	231.5	9.5
90°-150°	275.1	11.3
90°-180°	275.0	11.3
0°-180°	2424.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	632	632	632	632	632	
5°	634	631	626	631	630	60
15°	605	607	607	615	615	170
25°	548	557	564	576	577	252
35°	474	490	508	527	533	297
45°	389	413	447	474	484	301
55°	298	333	379	414	424	267
65°	206	250	304	342	353	203
75°	114	165	224	263	275	120
85°	34	91	150	188	200	35
90°	10	63	122	159	171	7
95°	7	51	106	142	152	6
105°	5	32	81	113	122	6
115°	4	15	56	84	94	3
125°	3	2	33	57	66	2
135°	1	1	11	31	39	1
145°	1	0	0	7	11	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°	631.9	631.9	631.9	631.9	631.9
2.5°	636.3	633.6	626.6	631.9	630.1
5°	633.6	631.0	625.7	631.0	630.1
7.5°	629.2	627.5	623.1	630.1	629.2
10°	623.1	622.2	619.5	626.6	626.6
12.5°	614.3	615.1	614.3	622.2	621.3
15°	604.6	607.2	607.2	615.1	615.1
17.5°	592.3	596.7	598.4	607.2	606.3
20°	579.1	584.3	587.9	597.5	599.3
22.5°	563.2	571.1	576.4	587.0	587.9
25°	548.3	557.1	564.1	576.4	577.3
27.5°	530.7	541.2	551.8	564.1	566.7
30°	512.2	525.4	537.7	552.7	556.2
32.5°	494.6	507.8	523.6	539.5	545.6
35°	474.3	490.2	507.8	527.1	533.3
37.5°	454.1	470.8	491.9	514.8	522.7
40°	433.0	452.3	477.9	502.5	510.4
42.5°	411.0	432.1	462.9	488.4	497.2
45°	389.0	412.7	447.1	474.3	484.0
47.5°	367.9	393.4	430.3	461.1	469.9
50°	345.0	373.1	413.6	445.3	455.9
52.5°	321.2	352.9	396.9	429.5	440.0
55°	297.5	332.7	379.3	413.6	424.2
57.5°	275.5	312.4	361.7	396.0	408.3
60°	251.7	291.3	342.3	378.4	390.7
62.5°	227.9	271.1	323.0	359.9	371.4
65°	205.9	249.9	304.5	341.5	352.9
67.5°	181.3	227.9	284.3	323.0	333.5
70°	158.4	207.7	264.0	302.7	315.1
72.5°	135.5	185.7	243.8	282.5	295.7
75°	113.5	165.4	223.5	263.1	274.6
77.5°	90.6	145.2	204.2	243.8	255.2
80°	70.4	125.0	184.8	224.4	236.7
82.5°	50.2	106.5	167.2	205.9	217.4
85°	34.3	90.6	150.5	188.3	199.8
87.5°	20.2	75.7	134.6	172.5	183.9
90°	9.7	63.4	122.3	159.3	170.7
92.5°	7.9	57.2	113.5	149.6	161.0
95°	7.0	51.0	106.5	141.7	152.2
97.5°	7.0	46.6	100.3	134.6	145.2
100°	6.2	41.4	93.3	126.7	138.2
102.5°	6.2	36.1	87.1	119.7	130.2
105°	5.3	31.7	81.0	112.6	122.3
107.5°	4.4	27.3	73.9	105.6	115.3
110°	4.4	22.9	67.8	98.6	108.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.5	19.4	62.5	91.5	101.2
115°	3.5	15.0	56.3	84.5	94.2
117.5°	3.5	10.6	50.2	77.4	87.1
120°	2.6	7.0	44.9	71.3	80.1
122.5°	2.6	4.4	38.7	64.2	73.0
125°	2.6	1.8	33.4	57.2	66.0
127.5°	1.8	1.8	27.3	51.0	59.0
130°	1.8	0.9	22.0	44.0	51.9
132.5°	1.8	0.9	16.7	37.8	44.9
135°	0.9	0.9	11.4	30.8	38.7
137.5°	0.9	0.9	6.2	24.6	30.8
140°	0.9	0.0	2.6	18.5	23.8
142.5°	0.9	0.0	0.0	12.3	17.6
145°	0.9	0.0	0.0	7.0	10.6
147.5°	0.0	0.0	0.0	1.8	5.3
150°	0.0	0.0	0.0	0.0	0.9
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	16.86	18.34	17.39	18.87	19.45	19.92	21.40	20.45	21.93	22.52
	3H	18.36	19.71	18.90	20.25	20.87	22.56	23.91	23.10	24.45	25.07
	4H	18.87	20.15	19.43	20.70	21.34	23.84	25.12	24.40	25.67	26.31
	6H	19.18	20.38	19.76	20.95	21.60	25.16	26.36	25.74	26.93	27.58
	8H	19.26	20.41	19.84	21.00	21.65	25.85	27.00	26.43	27.59	28.24
	12H	19.30	20.40	19.89	20.98	21.67	26.60	27.70	27.19	28.29	28.97
4H	2H	17.98	19.26	18.54	19.82	20.45	20.32	21.60	20.88	22.16	22.79
	3H	19.74	20.84	20.31	21.43	22.09	23.16	24.26	23.74	24.86	25.51
	4H	20.39	21.40	20.98	22.00	22.69	24.60	25.61	25.20	26.22	26.90
	6H	20.84	21.73	21.45	22.36	23.06	26.11	27.00	26.72	27.63	28.33
	8H	20.97	21.81	21.58	22.44	23.15	26.89	27.73	27.51	28.36	29.07
	12H	21.04	21.81	21.68	22.46	23.18	27.76	28.52	28.40	29.18	29.89
8H	4H	21.23	22.07	21.84	22.70	23.41	24.80	25.64	25.41	26.27	26.98
	6H	21.89	22.61	22.54	23.28	23.99	26.46	27.17	27.11	27.84	28.56
	8H	22.12	22.77	22.78	23.45	24.17	27.37	28.01	28.03	28.69	29.42
	12H	22.29	22.87	22.95	23.54	24.33	28.40	28.98	29.06	29.64	30.43
12H	4H	21.46	22.22	22.10	22.88	23.59	24.80	25.57	25.44	26.22	26.94
	6H	22.23	22.88	22.89	23.56	24.29	26.49	27.14	27.15	27.82	28.54
	8H	22.57	23.15	23.24	23.82	24.61	27.46	28.04	28.12	28.71	29.50