

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: P243210

Luminaire Tested: S122DRP-H675D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243210
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-H675D940-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

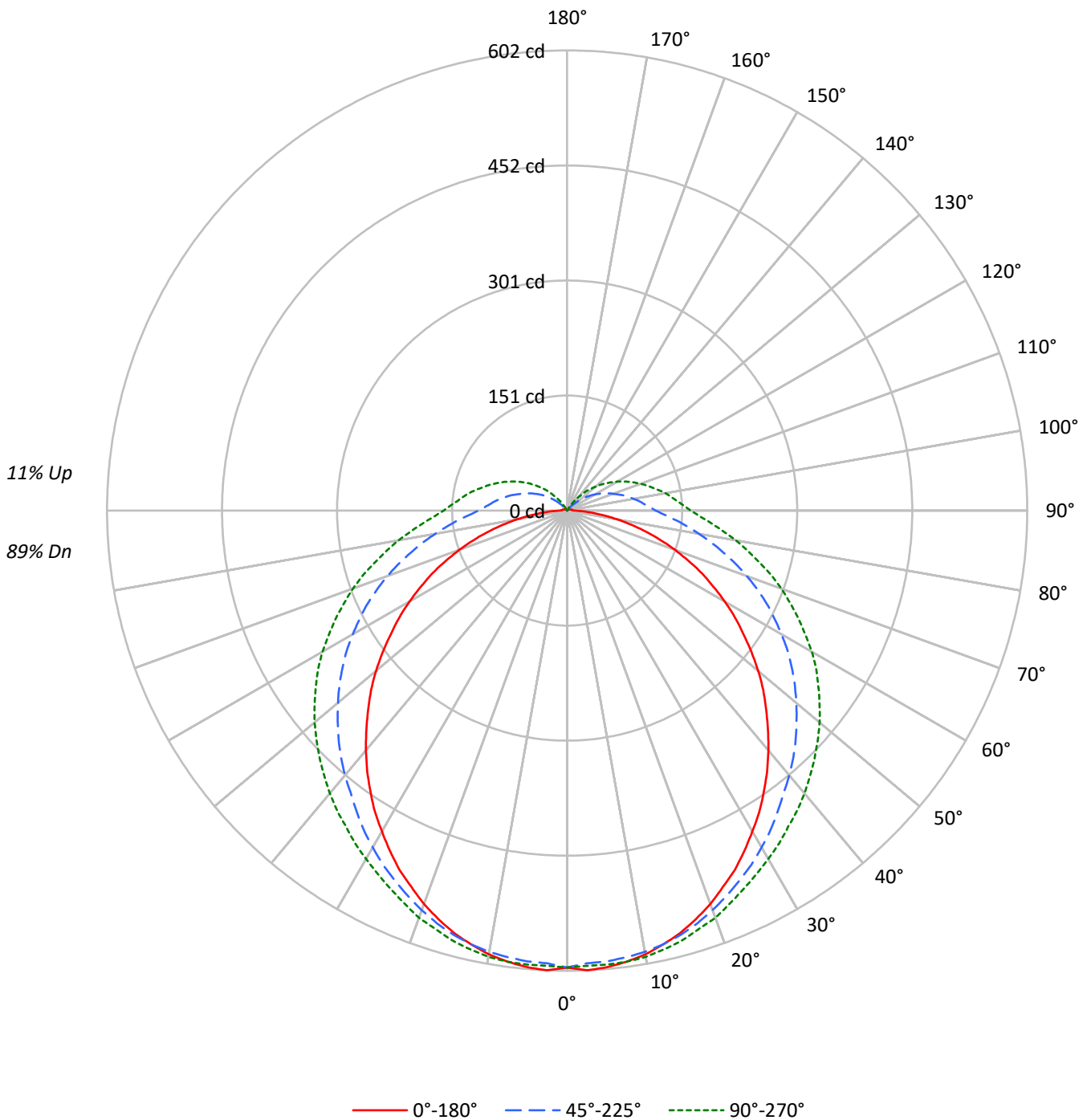
Lumens per Lamp: N/A
Luminaire Lumens: 2293.9 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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°	11387	11387	11387
5°	11441	10919	10855
10°	11359	10556	10416
15°	11215	10185	9953
20°	11018	9782	9514
25°	10793	9382	9064
30°	10528	9008	8702
35°	10281	8636	8379
40°	10004	8316	8116
45°	9704	8027	7849
50°	9431	7732	7603
55°	9066	7453	7338
60°	8745	7148	7078
65°	8393	6837	6762
70°	7882	6465	6460
75°	7317	6069	6104
80°	6511	5677	5794
85°	5701	5373	5485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9704 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.7	2.5
10°-20°	162.7	7.1
20°-30°	246.5	10.7
30°-40°	300.6	13.1
40°-50°	323.6	14.1
50°-60°	314.6	13.7
60°-70°	275.0	12.0
70°-80°	211.7	9.2
80°-90°	142.3	6.2
90°-100°	98.5	4.3
100°-110°	72.4	3.2
110°-120°	48.2	2.1
120°-130°	27.3	1.2
130°-140°	11.7	0.5
140°-150°	2.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	465.9	20.3
0°-40°	766.6	33.4
0°-60°	1404.7	61.2
0°-90°	2033.7	88.7
90°-120°	219.0	9.5
90°-150°	260.2	11.3
90°-180°	260.0	11.3
0°-180°	2293.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	598	598	598	598	598	
5°	600	597	592	597	596	57
15°	572	574	574	582	582	161
25°	519	527	534	545	546	239
35°	449	464	480	499	504	281
45°	368	390	423	449	458	284
55°	281	315	359	391	401	252
65°	195	236	288	323	334	192
75°	107	156	212	249	260	113
85°	32	86	142	178	189	33
90°	9	60	116	151	162	6
95°	7	48	101	134	144	5
105°	5	30	77	107	116	5
115°	3	14	53	80	89	3
125°	2	2	32	54	62	2
135°	1	1	11	29	37	1
145°	1	0	0	7	10	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°	597.8	597.8	597.8	597.8	597.8
2.5°	602.0	599.5	592.8	597.8	596.1
5°	599.5	597.0	592.0	597.0	596.1
7.5°	595.3	593.6	589.5	596.1	595.3
10°	589.5	588.6	586.1	592.8	592.8
12.5°	581.1	582.0	581.1	588.6	587.8
15°	572.0	574.5	574.5	582.0	582.0
17.5°	560.3	564.5	566.2	574.5	573.6
20°	547.8	552.8	556.2	565.3	567.0
22.5°	532.8	540.3	545.3	555.3	556.2
25°	518.7	527.0	533.7	545.3	546.2
27.5°	502.0	512.0	522.0	533.7	536.2
30°	484.6	497.0	508.7	522.9	526.2
32.5°	467.9	480.4	495.4	510.4	516.2
35°	448.8	463.7	480.4	498.7	504.5
37.5°	429.6	445.4	465.4	487.1	494.5
40°	409.6	427.9	452.1	475.4	482.9
42.5°	388.8	408.8	437.9	462.1	470.4
45°	368.0	390.5	422.9	448.8	457.9
47.5°	348.0	372.2	407.1	436.3	444.6
50°	326.4	353.0	391.3	421.3	431.3
52.5°	303.9	333.9	375.5	406.3	416.3
55°	281.4	314.7	358.8	391.3	401.3
57.5°	260.6	295.6	342.2	374.7	386.3
60°	238.1	275.6	323.9	358.0	369.7
62.5°	215.6	256.4	305.6	340.5	351.3
65°	194.8	236.5	288.1	323.0	333.9
67.5°	171.5	215.6	268.9	305.6	315.5
70°	149.9	196.5	249.8	286.4	298.1
72.5°	128.2	175.7	230.6	267.3	279.7
75°	107.4	156.5	211.5	248.9	259.8
77.5°	85.8	137.4	193.2	230.6	241.4
80°	66.6	118.2	174.8	212.3	224.0
82.5°	47.5	100.7	158.2	194.8	205.6
85°	32.5	85.8	142.4	178.2	189.0
87.5°	19.1	71.6	127.4	163.2	174.0
90°	9.2	59.9	115.7	150.7	161.5
92.5°	7.5	54.1	107.4	141.5	152.4
95°	6.7	48.3	100.7	134.0	144.0
97.5°	6.7	44.1	94.9	127.4	137.4
100°	5.8	39.1	88.3	119.9	130.7
102.5°	5.8	34.1	82.4	113.2	123.2
105°	5.0	30.0	76.6	106.6	115.7
107.5°	4.2	25.8	69.9	99.9	109.1
110°	4.2	21.6	64.1	93.2	102.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.3	18.3	59.1	86.6	95.7
115°	3.3	14.2	53.3	79.9	89.1
117.5°	3.3	10.0	47.5	73.3	82.4
120°	2.5	6.7	42.5	67.4	75.8
122.5°	2.5	4.2	36.6	60.8	69.1
125°	2.5	1.7	31.6	54.1	62.4
127.5°	1.7	1.7	25.8	48.3	55.8
130°	1.7	0.8	20.8	41.6	49.1
132.5°	1.7	0.8	15.8	35.8	42.5
135°	0.8	0.8	10.8	29.1	36.6
137.5°	0.8	0.8	5.8	23.3	29.1
140°	0.8	0.0	2.5	17.5	22.5
142.5°	0.8	0.0	0.0	11.7	16.7
145°	0.8	0.0	0.0	6.7	10.0
147.5°	0.0	0.0	0.0	1.7	5.0
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	16.67	18.15	17.20	18.68	19.26	19.73	21.21	20.26	21.74	22.32
	3H	18.17	19.52	18.71	20.06	20.68	22.37	23.72	22.91	24.26	24.88
	4H	18.67	19.96	19.23	20.51	21.14	23.64	24.93	24.20	25.48	26.12
	6H	18.99	20.19	19.56	20.75	21.40	24.97	26.17	25.55	26.74	27.39
	8H	19.07	20.21	19.65	20.81	21.46	25.66	26.80	26.24	27.39	28.05
	12H	19.11	20.21	19.70	20.79	21.48	26.41	27.51	27.00	28.09	28.78
4H	2H	17.79	19.07	18.35	19.63	20.26	20.13	21.41	20.69	21.97	22.60
	3H	19.55	20.65	20.12	21.24	21.90	22.97	24.07	23.55	24.67	25.32
	4H	20.20	21.21	20.79	21.81	22.49	24.41	25.42	25.00	26.02	26.71
	6H	20.65	21.54	21.26	22.17	22.87	25.92	26.81	26.53	27.44	28.13
	8H	20.77	21.62	21.39	22.24	22.95	26.70	27.54	27.31	28.17	28.88
	12H	20.85	21.62	21.49	22.27	22.99	27.56	28.33	28.20	28.98	29.70
8H	4H	21.04	21.88	21.65	22.51	23.22	24.60	25.45	25.22	26.07	26.78
	6H	21.70	22.41	22.35	23.08	23.80	26.27	26.98	26.91	27.65	28.37
	8H	21.93	22.58	22.59	23.25	23.98	27.17	27.82	27.83	28.50	29.22
	12H	22.10	22.68	22.76	23.34	24.13	28.21	28.78	28.87	29.45	30.24
12H	4H	21.27	22.03	21.91	22.69	23.40	24.61	25.38	25.25	26.03	26.75
	6H	22.04	22.69	22.70	23.37	24.09	26.30	26.95	26.96	27.62	28.35
	8H	22.38	22.96	23.04	23.63	24.42	27.27	27.85	27.93	28.51	29.30