

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: P243357

Luminaire Tested: S123DRP-H560D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243357
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H560D830-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

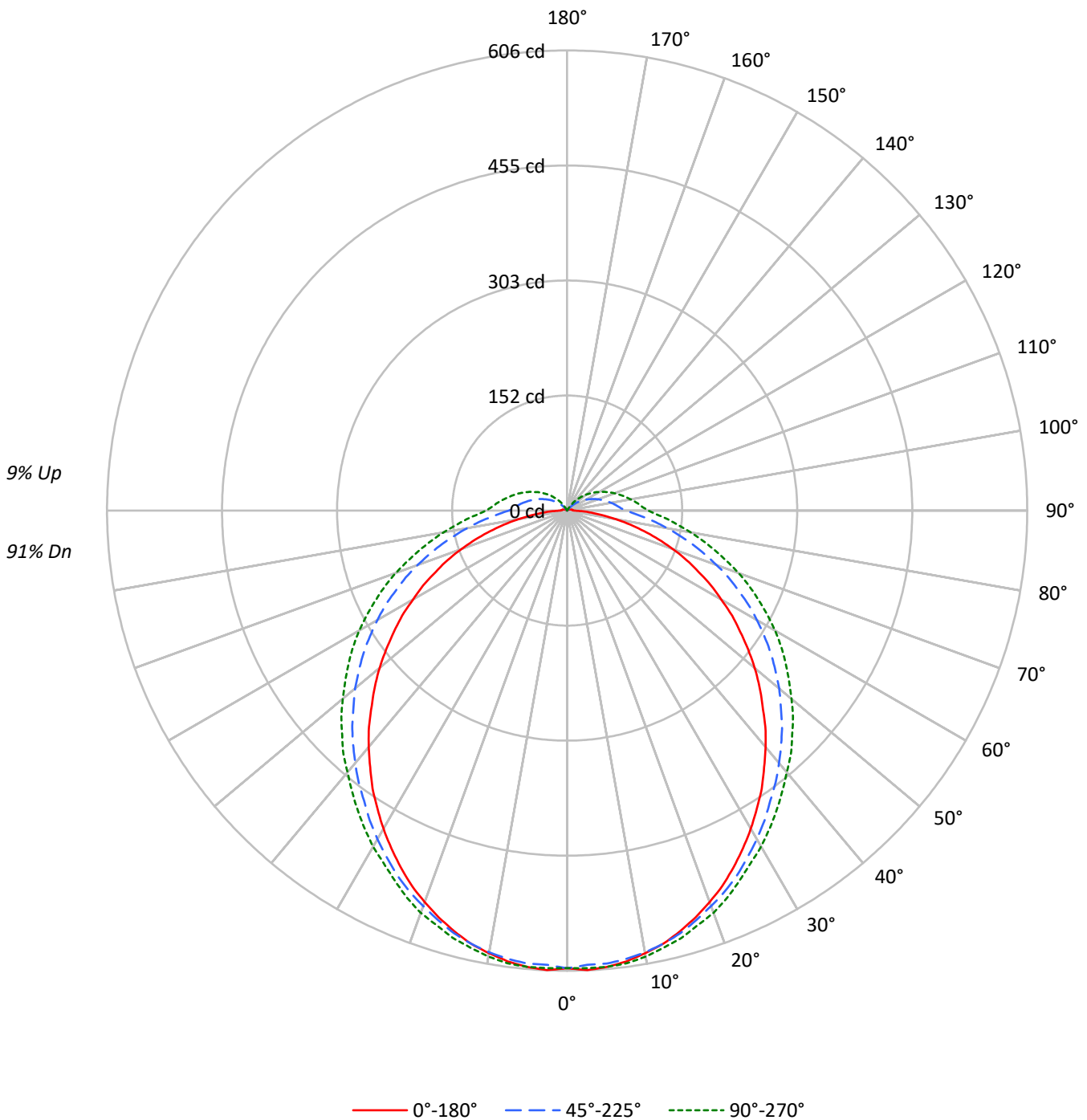
Lumens per Lamp: N/A
Luminaire Lumens: 2045.3 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 17.2
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

TEST NUMBER: P243357

CATALOG NUMBER: S123DRP-H560D830-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot



TEST NUMBER: P243357

CATALOG NUMBER: S123DRP-H560D830-X4F0-XX-UDD-D-W

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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	60
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7304	7304	7304
5°	7326	7116	7113
10°	7258	6937	6897
15°	7158	6739	6661
20°	7022	6504	6421
25°	6864	6286	6144
30°	6688	6043	5910
35°	6513	5795	5677
40°	6320	5592	5455
45°	6105	5393	5268
50°	5928	5189	5076
55°	5708	4981	4886
60°	5478	4751	4702
65°	5237	4505	4475
70°	4963	4241	4255
75°	4548	3956	3996
80°	4025	3671	3768
85°	3572	3442	3593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6105 cd/sqm



TEST NUMBER: P243357

CATALOG NUMBER: S123DRP-H560D830-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.2	2.8
10°-20°	163.1	8.0
20°-30°	244.3	11.9
30°-40°	292.3	14.3
40°-50°	306.5	15.0
50°-60°	288.2	14.1
60°-70°	241.1	11.8
70°-80°	173.1	8.5
80°-90°	103.7	5.1
90°-100°	65.7	3.2
100°-110°	48.4	2.4
110°-120°	32.4	1.6
120°-130°	18.7	0.9
130°-140°	8.6	0.4
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°	464.6	22.7
0°-40°	756.9	37.0
0°-60°	1351.6	66.1
0°-90°	1869.4	91.4
90°-120°	146.6	7.2
90°-150°	175.9	8.6
90°-180°	176.0	8.6
0°-180°	2045.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	603	603	603	603	603	
5°	603	603	599	604	603	57
15°	574	578	576	584	582	162
25°	518	525	530	538	537	239
35°	447	458	466	478	481	279
45°	364	382	400	414	419	281
55°	278	302	327	345	351	249
65°	191	219	249	271	278	190
75°	105	137	170	194	201	111
85°	32	65	102	125	133	33
90°	9	42	77	100	107	6
95°	7	34	67	88	95	6
105°	5	22	51	70	75	5
115°	3	11	36	52	58	3
125°	2	2	22	36	41	2
135°	1	1	9	21	24	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



TEST NUMBER: P243357

CATALOG NUMBER: S123DRP-H560D830-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	602.6	602.6	602.6	602.6	602.6
2.5°	605.8	603.9	598.8	604.5	603.2
5°	603.2	602.6	598.8	603.9	603.2
7.5°	598.8	598.8	595.7	601.4	601.4
10°	591.9	593.8	590.7	597.0	596.3
12.5°	584.4	586.9	584.4	591.3	589.4
15°	573.7	577.5	576.2	583.8	582.5
17.5°	561.8	566.2	565.5	573.1	572.4
20°	548.6	554.2	554.2	561.8	563.7
22.5°	534.7	541.0	542.9	550.5	551.7
25°	518.4	525.3	529.7	537.9	537.3
27.5°	501.4	509.6	514.6	523.4	523.4
30°	483.8	493.3	499.6	509.0	510.9
32.5°	465.0	476.3	483.8	493.9	496.4
35°	446.8	457.5	466.3	478.2	481.3
37.5°	426.0	439.2	451.2	463.7	465.6
40°	406.6	421.0	434.2	447.4	449.9
42.5°	386.5	401.5	417.2	430.4	436.1
45°	363.8	382.1	400.3	414.1	419.1
47.5°	343.7	361.9	381.4	397.8	403.4
50°	322.4	341.2	364.5	380.2	385.8
52.5°	300.4	321.1	345.6	362.6	368.2
55°	278.4	301.6	327.4	345.0	351.3
57.5°	257.6	280.9	307.9	327.4	334.3
60°	234.4	260.1	288.4	308.5	316.1
62.5°	213.6	240.0	269.6	289.7	297.2
65°	191.0	219.3	248.8	270.8	277.7
67.5°	170.3	197.9	230.0	252.0	259.5
70°	148.3	177.2	209.2	231.9	240.0
72.5°	126.3	157.1	189.8	213.0	219.9
75°	104.9	137.0	170.3	193.5	201.1
77.5°	84.8	116.9	151.4	174.7	182.9
80°	64.7	98.0	133.8	157.1	165.3
82.5°	47.1	81.1	117.5	140.1	147.7
85°	32.0	65.4	101.8	125.0	133.2
87.5°	18.9	52.8	88.0	111.2	118.1
90°	8.8	41.5	76.7	99.9	106.8
92.5°	8.2	37.1	71.0	93.0	99.9
95°	6.9	33.9	66.6	88.0	94.9
97.5°	6.9	30.8	62.8	83.6	89.9
100°	6.3	27.6	59.1	78.5	84.8
102.5°	5.7	24.5	54.7	74.1	80.4
105°	5.0	22.0	50.9	69.7	75.4
107.5°	4.4	18.9	47.1	65.4	71.0
110°	4.4	16.3	43.4	61.0	66.6



TEST NUMBER: P243357

CATALOG NUMBER: S123DRP-H560D830-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.8	13.8	39.6	56.6	62.2
115°	3.1	11.3	35.8	52.2	57.8
117.5°	3.1	8.8	32.0	48.4	53.4
120°	3.1	6.9	28.9	44.0	49.0
122.5°	2.5	4.4	25.8	40.2	45.2
125°	2.5	2.5	22.0	35.8	40.8
127.5°	1.9	1.3	18.9	32.0	36.4
130°	1.9	1.3	15.7	28.3	32.7
132.5°	1.3	1.3	12.6	24.5	28.9
135°	1.3	0.6	9.4	20.7	24.5
137.5°	1.3	0.6	6.3	17.0	20.7
140°	0.6	0.6	3.1	13.2	17.0
142.5°	0.6	0.0	0.6	10.1	13.2
145°	0.6	0.0	0.0	6.3	8.8
147.5°	0.6	0.0	0.0	3.1	5.7
150°	0.6	0.0	0.0	0.0	1.9
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



TEST NUMBER: P243357

CATALOG NUMBER: S123DRP-H560D830-X4F0-XX-UDD-D-W

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	15.94	17.45	16.44	17.93	18.45	18.01	19.51	18.50	20.00	20.52
	3H	17.50	18.87	18.00	19.36	19.92	20.41	21.78	20.91	22.27	22.83
	4H	18.02	19.32	18.55	19.83	20.41	21.52	22.82	22.05	23.33	23.91
	6H	18.36	19.57	18.90	20.09	20.68	22.65	23.86	23.19	24.38	24.97
	8H	18.45	19.61	19.00	20.15	20.75	23.21	24.37	23.76	24.92	25.51
	12H	18.50	19.61	19.05	20.15	20.77	23.83	24.94	24.39	25.48	26.11
4H	2H	16.86	18.16	17.38	18.67	19.24	18.46	19.76	18.99	20.27	20.85
	3H	18.66	19.77	19.20	20.32	20.92	21.07	22.18	21.61	22.73	23.33
	4H	19.33	20.34	19.89	20.90	21.53	22.35	23.36	22.91	23.92	24.55
	6H	19.80	20.69	20.38	21.28	21.92	23.65	24.54	24.23	25.13	25.77
	8H	19.94	20.77	20.52	21.36	22.02	24.31	25.15	24.89	25.74	26.39
	12H	20.02	20.78	20.63	21.40	22.06	25.04	25.80	25.64	26.42	27.08
8H	4H	19.98	20.81	20.56	21.40	22.06	22.57	23.41	23.15	24.00	24.65
	6H	20.63	21.34	21.25	21.97	22.63	24.03	24.74	24.65	25.37	26.03
	8H	20.86	21.50	21.49	22.14	22.82	24.82	25.46	25.44	26.10	26.77
	12H	21.03	21.61	21.66	22.23	22.97	25.71	26.28	26.34	26.91	27.65
12H	4H	20.13	20.90	20.74	21.51	22.17	22.58	23.34	23.19	23.96	24.62
	6H	20.88	21.52	21.51	22.16	22.83	24.07	24.71	24.70	25.35	26.03
	8H	21.20	21.78	21.83	22.40	23.14	24.92	25.49	25.55	26.12	26.86