

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P243023

Luminaire Tested: **S121DR-H685D840-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243023
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H685D840-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2610.1 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

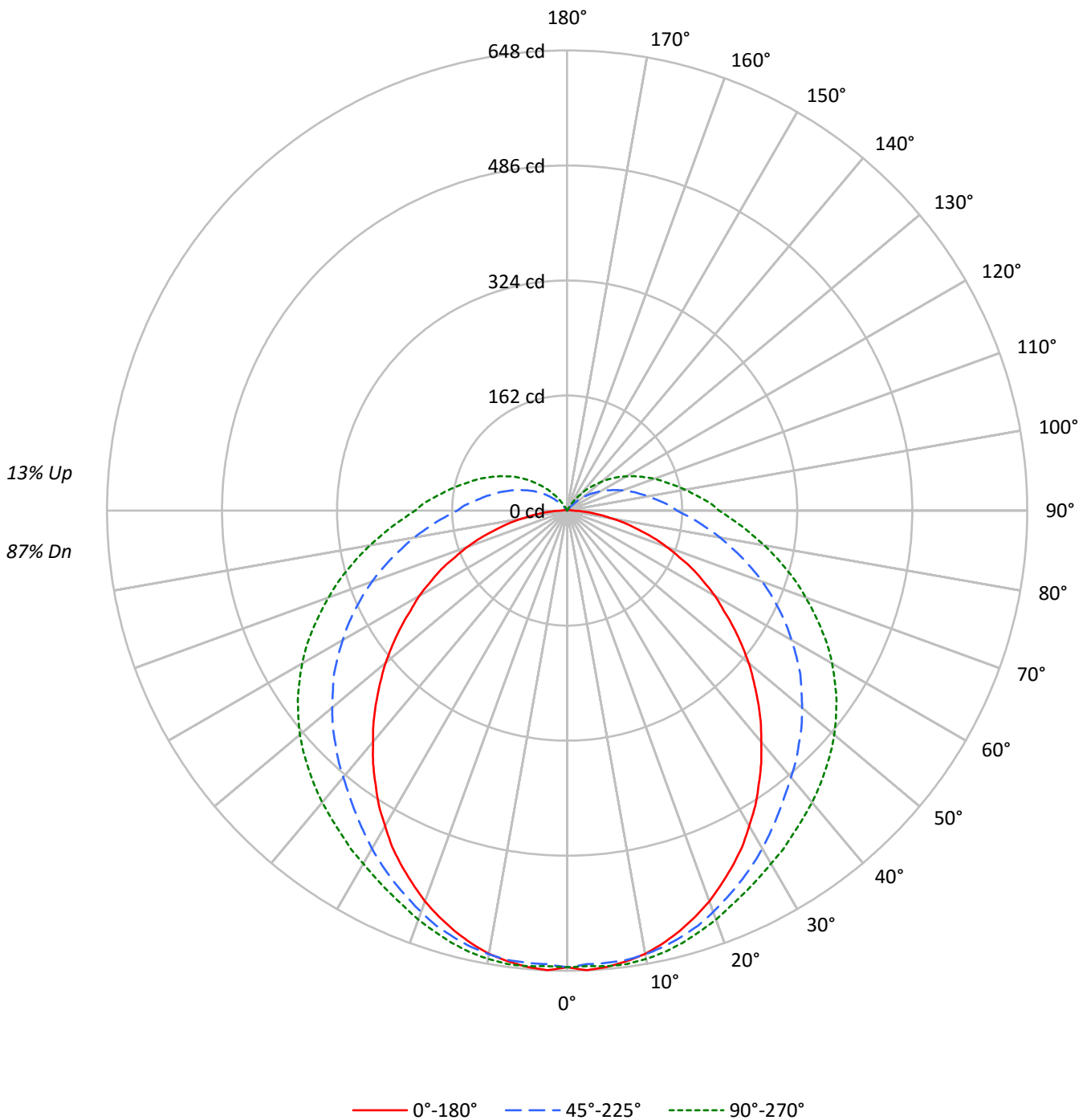
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243023

CATALOG NUMBER: S121DR-H685D840-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P243023

CATALOG NUMBER: S121DR-H685D840-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	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	29	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19055	19055	19055
5°	19145	18001	17772
10°	18991	17147	16678
15°	18693	16257	15605
20°	18318	15368	14602
25°	17854	14509	13708
30°	17333	13711	12983
35°	16766	12953	12383
40°	16155	12313	11886
45°	15588	11778	11420
50°	15002	11263	10995
55°	14319	10785	10539
60°	13734	10224	10055
65°	13082	9693	9532
70°	12188	9146	8995
75°	11096	8567	8475
80°	9749	8028	7962
85°	8487	7517	7497



TEST NUMBER: P243023

CATALOG NUMBER: S121DR-H685D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.2	2.3
10°-20°	175.7	6.7
20°-30°	265.8	10.2
30°-40°	324.9	12.4
40°-50°	352.7	13.5
50°-60°	348.1	13.3
60°-70°	311.8	11.9
70°-80°	250.9	9.6
80°-90°	181.3	6.9
90°-100°	129.8	5.0
100°-110°	92.7	3.6
110°-120°	61.3	2.4
120°-130°	34.9	1.3
130°-140°	15.6	0.6
140°-150°	3.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	502.8	19.3
0°-40°	827.7	31.7
0°-60°	1528.5	58.6
0°-90°	2272.4	87.1
90°-120°	283.8	10.9
90°-150°	337.6	12.9
90°-180°	338.0	12.9
0°-180°	2610.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	643	643	643	643	643	
5°	645	643	639	646	644	61
15°	613	620	621	630	630	173
25°	552	566	577	590	593	254
35°	470	495	520	547	555	294
45°	380	416	462	502	515	293
55°	286	334	401	447	463	256
65°	195	256	329	380	395	192
75°	105	176	255	305	320	112
85°	31	106	185	232	246	32
90°	8	79	155	201	214	5
95°	6	63	135	178	191	4
105°	3	38	99	137	148	3
115°	2	18	68	103	113	2
125°	1	2	42	71	80	1
135°	0	0	16	40	47	0
145°	0	0	0	10	17	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: P243023

CATALOG NUMBER: S121DR-H685D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	643.1	643.1	643.1	643.1	643.1
2.5°	647.8	644.0	639.3	644.0	642.1
5°	644.9	643.1	639.3	645.9	644.0
7.5°	640.2	640.2	638.3	644.9	644.0
10°	633.6	635.5	634.6	642.1	641.2
12.5°	624.2	628.0	628.9	637.4	636.5
15°	612.9	619.5	621.4	629.9	629.9
17.5°	599.7	608.2	612.9	621.4	621.4
20°	585.5	595.0	601.6	611.9	612.9
22.5°	568.6	581.8	589.3	601.6	602.5
25°	551.6	565.7	577.0	590.2	593.1
27.5°	533.7	549.7	563.8	578.9	583.6
30°	512.9	530.8	549.7	567.6	574.2
32.5°	493.1	513.9	534.6	557.2	565.7
35°	470.5	495.0	519.5	546.9	555.4
37.5°	448.8	475.2	504.4	535.6	545.9
40°	425.2	455.4	490.3	525.2	536.5
42.5°	403.6	434.7	477.1	512.9	526.1
45°	380.0	415.8	462.0	501.6	514.8
47.5°	356.4	395.1	447.9	488.4	503.5
50°	333.8	374.3	431.8	476.2	491.2
52.5°	309.3	355.5	415.8	461.1	477.1
55°	285.7	333.8	400.7	446.9	463.0
57.5°	261.2	315.9	382.8	431.8	446.9
60°	240.4	295.1	364.9	414.9	430.9
62.5°	216.9	275.3	347.9	397.0	413.9
65°	195.2	255.5	329.1	380.0	395.1
67.5°	170.7	235.7	311.2	361.1	376.2
70°	149.0	215.9	292.3	342.3	357.4
72.5°	127.3	197.1	273.4	324.4	339.4
75°	104.7	176.3	254.6	304.6	319.6
77.5°	84.9	157.5	235.7	285.7	300.8
80°	64.1	138.6	218.8	267.8	281.9
82.5°	47.1	121.6	200.8	249.9	263.1
85°	31.1	105.6	184.8	232.0	246.1
87.5°	17.9	91.5	168.8	215.9	229.1
90°	7.5	79.2	154.6	200.8	214.0
92.5°	5.7	71.7	146.1	190.5	203.7
95°	5.7	63.2	134.8	178.2	191.4
97.5°	4.7	55.6	124.5	166.9	179.1
100°	3.8	49.0	116.0	156.5	168.8
102.5°	3.8	43.4	106.5	146.1	158.4
105°	2.8	37.7	99.0	136.7	148.0
107.5°	2.8	32.1	90.5	128.2	139.5
110°	1.9	27.3	83.0	119.7	131.1



TEST NUMBER: P243023

CATALOG NUMBER: S121DR-H685D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	22.6	75.4	111.3	121.6
115°	1.9	17.9	67.9	102.8	113.1
117.5°	0.9	13.2	61.3	94.3	104.7
120°	0.9	9.4	54.7	85.8	96.2
122.5°	0.9	4.7	47.1	78.3	88.6
125°	0.9	1.9	41.5	70.7	80.1
127.5°	0.0	0.0	34.9	62.2	71.7
130°	0.0	0.0	28.3	54.7	63.2
132.5°	0.0	0.0	22.6	47.1	54.7
135°	0.0	0.0	16.0	39.6	47.1
137.5°	0.0	0.0	10.4	32.1	39.6
140°	0.0	0.0	4.7	24.5	31.1
142.5°	0.0	0.0	0.9	17.9	23.6
145°	0.0	0.0	0.0	10.4	17.0
147.5°	0.0	0.0	0.0	3.8	9.4
150°	0.0	0.0	0.0	0.0	2.8
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

(END OF REPORT)