

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: P242152

Luminaire Tested: **S121DR-S305D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242152
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S305D830-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1124.5 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

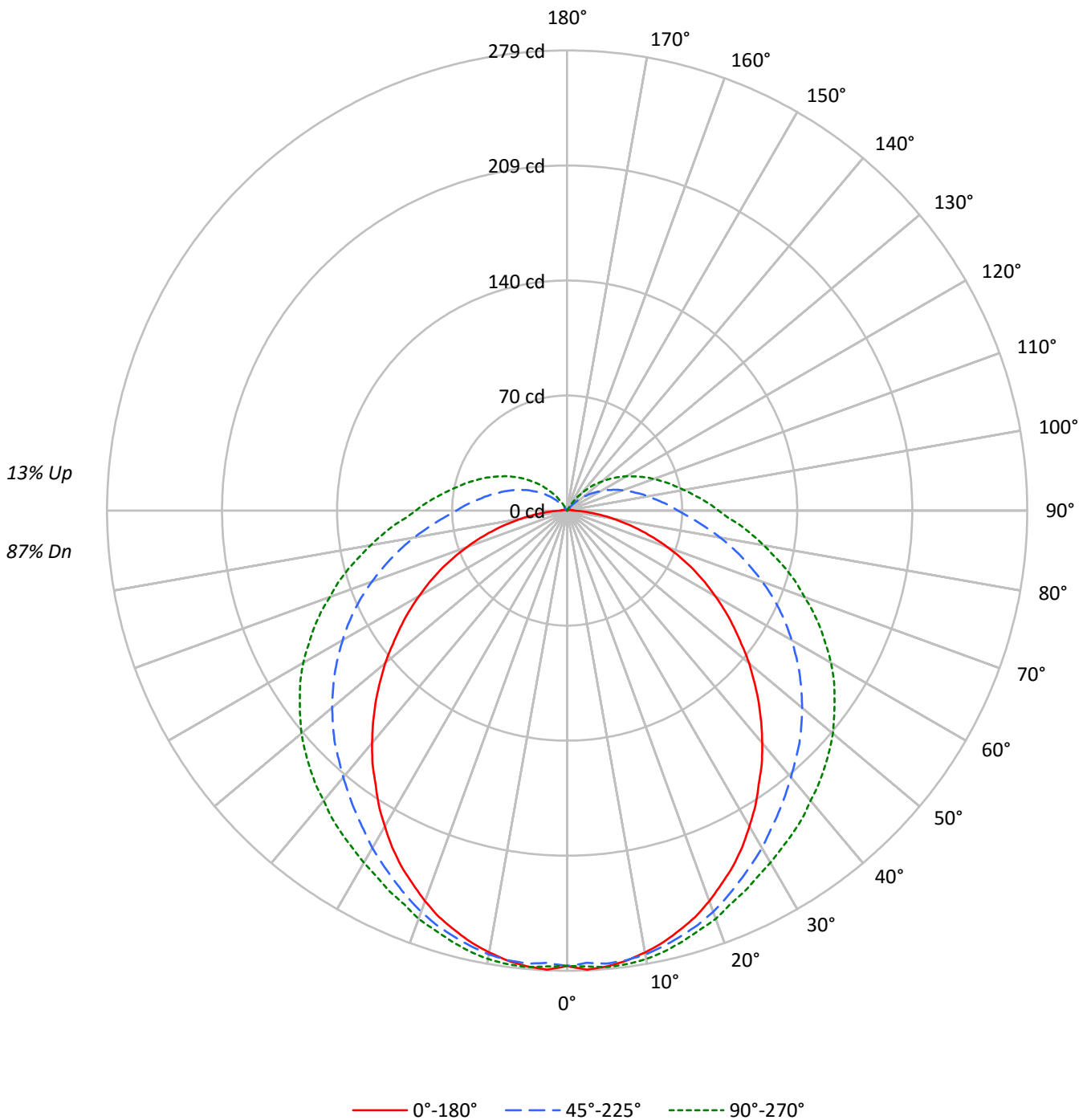
Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	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	28	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	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8181	8181	8181
5°	8235	7763	7666
10°	8153	7385	7181
15°	8033	6988	6699
20°	7881	6614	6275
25°	7700	6228	5887
30°	7468	5892	5573
35°	7216	5573	5322
40°	6991	5302	5087
45°	6736	5078	4894
50°	6472	4852	4707
55°	6190	4629	4505
60°	5925	4405	4312
65°	5656	4182	4092
70°	5284	3939	3853
75°	4843	3698	3646
80°	4319	3456	3418
85°	3711	3230	3223



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.4	2.3
10°-20°	75.6	6.7
20°-30°	114.3	10.2
30°-40°	139.8	12.4
40°-50°	151.8	13.5
50°-60°	149.7	13.3
60°-70°	134.4	12.0
70°-80°	108.2	9.6
80°-90°	78.1	6.9
90°-100°	55.8	5.0
100°-110°	40.0	3.6
110°-120°	26.6	2.4
120°-130°	15.3	1.4
130°-140°	6.9	0.6
140°-150°	1.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	216.3	19.2
0°-40°	356.1	31.7
0°-60°	657.6	58.5
0°-90°	978.3	87.0
90°-120°	122.5	10.9
90°-150°	146.2	13.0
90°-180°	146.0	13.0
0°-180°	1124.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	276	276	276	276	276	
5°	277	277	276	278	278	26
15°	263	267	267	271	270	74
25°	238	244	248	254	255	109
35°	202	214	224	235	239	127
45°	164	179	199	215	221	127
55°	124	145	172	192	198	111
65°	84	111	142	163	170	83
75°	46	76	110	131	138	48
85°	14	46	79	100	106	14
90°	4	35	67	86	92	3
95°	3	28	58	76	82	2
105°	2	16	42	59	64	2
115°	1	8	30	44	49	1
125°	1	1	18	30	35	1
135°	0	0	7	17	21	0
145°	0	0	0	5	7	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°	276.1	276.1	276.1	276.1	276.1
2.5°	278.6	277.4	274.5	277.4	276.6
5°	277.4	277.0	275.7	278.2	277.8
7.5°	275.3	276.1	274.9	278.2	277.4
10°	272.0	274.1	273.3	276.6	276.1
12.5°	268.3	270.8	270.4	274.1	273.7
15°	263.4	267.1	267.1	270.8	270.4
17.5°	258.4	262.1	263.4	267.5	266.7
20°	251.9	256.8	258.9	262.6	263.4
22.5°	244.9	251.0	253.5	258.0	258.4
25°	237.9	244.0	247.7	253.5	254.7
27.5°	230.0	237.0	242.0	248.6	250.2
30°	221.0	229.6	236.2	243.6	246.5
32.5°	212.4	221.8	229.6	239.5	242.4
35°	202.5	213.6	223.5	234.6	238.7
37.5°	193.8	205.4	217.3	230.0	234.6
40°	184.0	196.3	211.1	225.1	229.6
42.5°	174.1	188.1	204.9	220.6	225.5
45°	164.2	179.0	199.2	215.2	220.6
47.5°	153.9	170.8	192.6	209.9	215.6
50°	144.0	162.1	186.0	204.1	210.3
52.5°	133.3	153.5	179.0	197.9	204.1
55°	123.5	144.9	172.0	191.8	197.9
57.5°	113.6	136.2	164.6	184.8	191.8
60°	103.7	127.6	157.2	177.8	184.8
62.5°	94.2	119.3	149.8	170.8	177.0
65°	84.4	111.1	142.0	163.0	169.6
67.5°	74.5	102.5	134.2	155.1	161.7
70°	64.6	93.4	125.9	147.3	153.1
72.5°	55.1	85.2	117.7	139.5	145.7
75°	45.7	76.5	109.9	130.9	137.5
77.5°	36.6	68.3	102.1	123.0	128.8
80°	28.4	60.1	94.2	115.2	121.0
82.5°	20.6	53.1	86.4	107.0	113.2
85°	13.6	46.1	79.4	99.6	105.8
87.5°	8.2	39.9	72.8	92.6	97.5
90°	3.7	34.6	67.1	86.0	91.8
92.5°	3.3	30.9	62.6	81.5	86.8
95°	2.9	27.6	58.0	76.5	81.5
97.5°	2.5	24.3	53.5	71.6	76.5
100°	2.1	21.4	49.8	67.1	72.0
102.5°	2.1	18.9	46.1	62.6	67.5
105°	1.6	16.5	42.4	58.8	63.8
107.5°	1.6	14.4	39.1	55.1	59.7
110°	1.6	12.3	35.8	51.4	56.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	10.3	32.9	47.7	52.3
115°	1.2	8.2	29.6	44.0	48.6
117.5°	1.2	6.2	26.7	40.7	44.9
120°	0.8	4.5	23.5	37.4	41.6
122.5°	0.8	2.9	21.0	33.7	37.9
125°	0.8	1.2	18.1	30.5	34.6
127.5°	0.8	0.4	15.2	27.2	30.9
130°	0.4	0.4	12.8	23.9	27.2
132.5°	0.4	0.4	9.9	20.6	24.3
135°	0.4	0.4	7.0	17.3	20.6
137.5°	0.4	0.0	4.5	14.0	16.9
140°	0.4	0.0	2.5	11.1	13.6
142.5°	0.4	0.0	0.4	7.8	10.7
145°	0.0	0.0	0.0	4.9	7.0
147.5°	0.0	0.0	0.0	2.1	4.1
150°	0.0	0.0	0.0	0.0	1.2
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)