

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: P242171

Luminaire Tested: **S121DR-S305D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242171
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-S305D935-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1027.2 lumens
Efficiency: N/A
Efficacy: 88.6 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

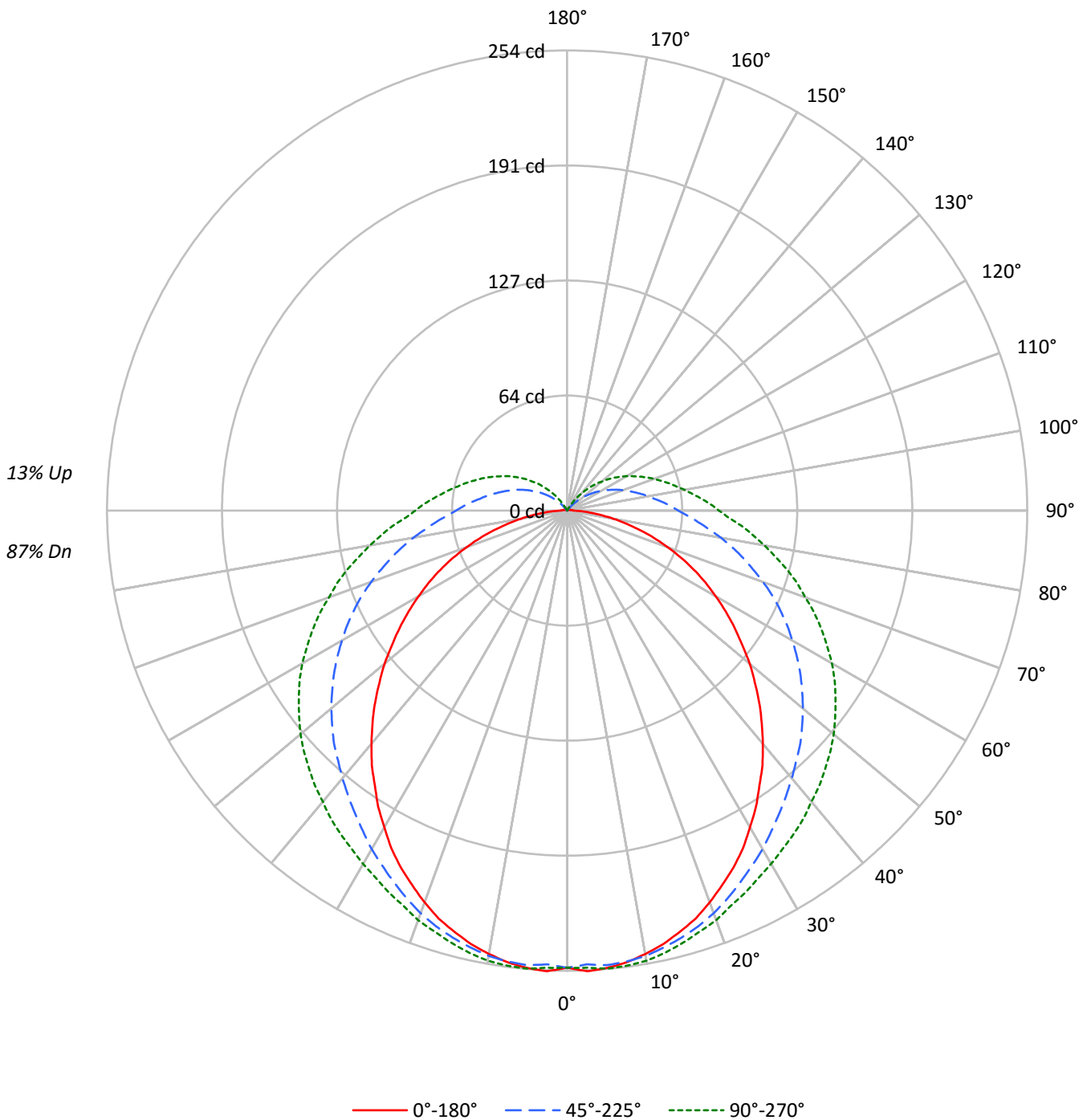
Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7476	7476	7476
5°	7523	7093	7004
10°	7448	6744	6562
15°	7338	6384	6119
20°	7199	6042	5732
25°	7034	5690	5378
30°	6823	5383	5092
35°	6592	5089	4860
40°	6383	4844	4648
45°	6153	4640	4470
50°	5915	4432	4300
55°	5653	4228	4115
60°	5410	4024	3939
65°	5167	3820	3737
70°	4826	3598	3519
75°	4419	3378	3331
80°	3939	3159	3121
85°	3384	2953	2943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.1	2.3
10°-20°	69.1	6.7
20°-30°	104.4	10.2
30°-40°	127.7	12.4
40°-50°	138.6	13.5
50°-60°	136.8	13.3
60°-70°	122.8	12.0
70°-80°	98.8	9.6
80°-90°	71.4	6.9
90°-100°	51.0	5.0
100°-110°	36.5	3.6
110°-120°	24.3	2.4
120°-130°	14.0	1.4
130°-140°	6.3	0.6
140°-150°	1.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	197.6	19.2
0°-40°	325.3	31.7
0°-60°	600.7	58.5
0°-90°	893.6	87.0
90°-120°	111.9	10.9
90°-150°	133.6	13.0
90°-180°	134.0	13.0
0°-180°	1027.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	252	252	252	252	252	
5°	253	253	252	254	254	24
15°	241	244	244	247	247	68
25°	217	223	226	232	233	100
35°	185	195	204	214	218	116
45°	150	164	182	197	202	116
55°	113	132	157	175	181	101
65°	77	102	130	149	155	76
75°	42	70	100	120	126	44
85°	12	42	73	91	97	13
90°	3	32	61	79	84	2
95°	3	25	53	70	74	2
105°	2	15	39	54	58	2
115°	1	8	27	40	44	1
125°	1	1	16	28	32	1
135°	0	0	6	16	19	0
145°	0	0	0	4	6	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°	252.3	252.3	252.3	252.3	252.3
2.5°	254.5	253.4	250.7	253.4	252.6
5°	253.4	253.0	251.9	254.1	253.8
7.5°	251.5	252.3	251.1	254.1	253.4
10°	248.5	250.4	249.6	252.6	252.3
12.5°	245.1	247.4	247.0	250.4	250.0
15°	240.6	244.0	244.0	247.4	247.0
17.5°	236.1	239.5	240.6	244.4	243.6
20°	230.1	234.6	236.5	239.8	240.6
22.5°	223.7	229.3	231.6	235.7	236.1
25°	217.3	222.9	226.3	231.6	232.7
27.5°	210.1	216.5	221.0	227.1	228.6
30°	201.9	209.8	215.8	222.6	225.2
32.5°	194.0	202.6	209.8	218.8	221.4
35°	185.0	195.1	204.1	214.3	218.0
37.5°	177.1	187.6	198.5	210.1	214.3
40°	168.0	179.3	192.9	205.6	209.8
42.5°	159.0	171.8	187.2	201.5	206.0
45°	150.0	163.5	182.0	196.6	201.5
47.5°	140.6	156.0	175.9	191.7	197.0
50°	131.6	148.1	169.9	186.5	192.1
52.5°	121.8	140.2	163.5	180.8	186.5
55°	112.8	132.3	157.1	175.2	180.8
57.5°	103.8	124.4	150.4	168.8	175.2
60°	94.7	116.5	143.6	162.4	168.8
62.5°	86.1	109.0	136.8	156.0	161.7
65°	77.1	101.5	129.7	148.9	154.9
67.5°	68.0	93.6	122.6	141.7	147.7
70°	59.0	85.3	115.0	134.6	139.8
72.5°	50.4	77.8	107.5	127.4	133.1
75°	41.7	69.9	100.4	119.5	125.6
77.5°	33.5	62.4	93.2	112.4	117.7
80°	25.9	54.9	86.1	105.3	110.5
82.5°	18.8	48.5	78.9	97.7	103.4
85°	12.4	42.1	72.6	91.0	96.6
87.5°	7.5	36.5	66.5	84.6	89.1
90°	3.4	31.6	61.3	78.6	83.8
92.5°	3.0	28.2	57.1	74.4	79.3
95°	2.6	25.2	53.0	69.9	74.4
97.5°	2.3	22.2	48.9	65.4	69.9
100°	1.9	19.5	45.5	61.3	65.8
102.5°	1.9	17.3	42.1	57.1	61.7
105°	1.5	15.0	38.7	53.8	58.3
107.5°	1.5	13.2	35.7	50.4	54.5
110°	1.5	11.3	32.7	47.0	51.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	9.4	30.1	43.6	47.7
115°	1.1	7.5	27.1	40.2	44.4
117.5°	1.1	5.6	24.4	37.2	41.0
120°	0.8	4.1	21.4	34.2	38.0
122.5°	0.8	2.6	19.2	30.8	34.6
125°	0.8	1.1	16.5	27.8	31.6
127.5°	0.8	0.4	13.9	24.8	28.2
130°	0.4	0.4	11.7	21.8	24.8
132.5°	0.4	0.4	9.0	18.8	22.2
135°	0.4	0.4	6.4	15.8	18.8
137.5°	0.4	0.0	4.1	12.8	15.4
140°	0.4	0.0	2.3	10.2	12.4
142.5°	0.4	0.0	0.4	7.1	9.8
145°	0.0	0.0	0.0	4.5	6.4
147.5°	0.0	0.0	0.0	1.9	3.8
150°	0.0	0.0	0.0	0.0	1.1
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)