

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: P243035

Luminaire Tested: **S121DR-H1025D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243035  
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-H1025D935-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3352.6 lumens  
Efficiency: N/A  
Efficacy: 88.9 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

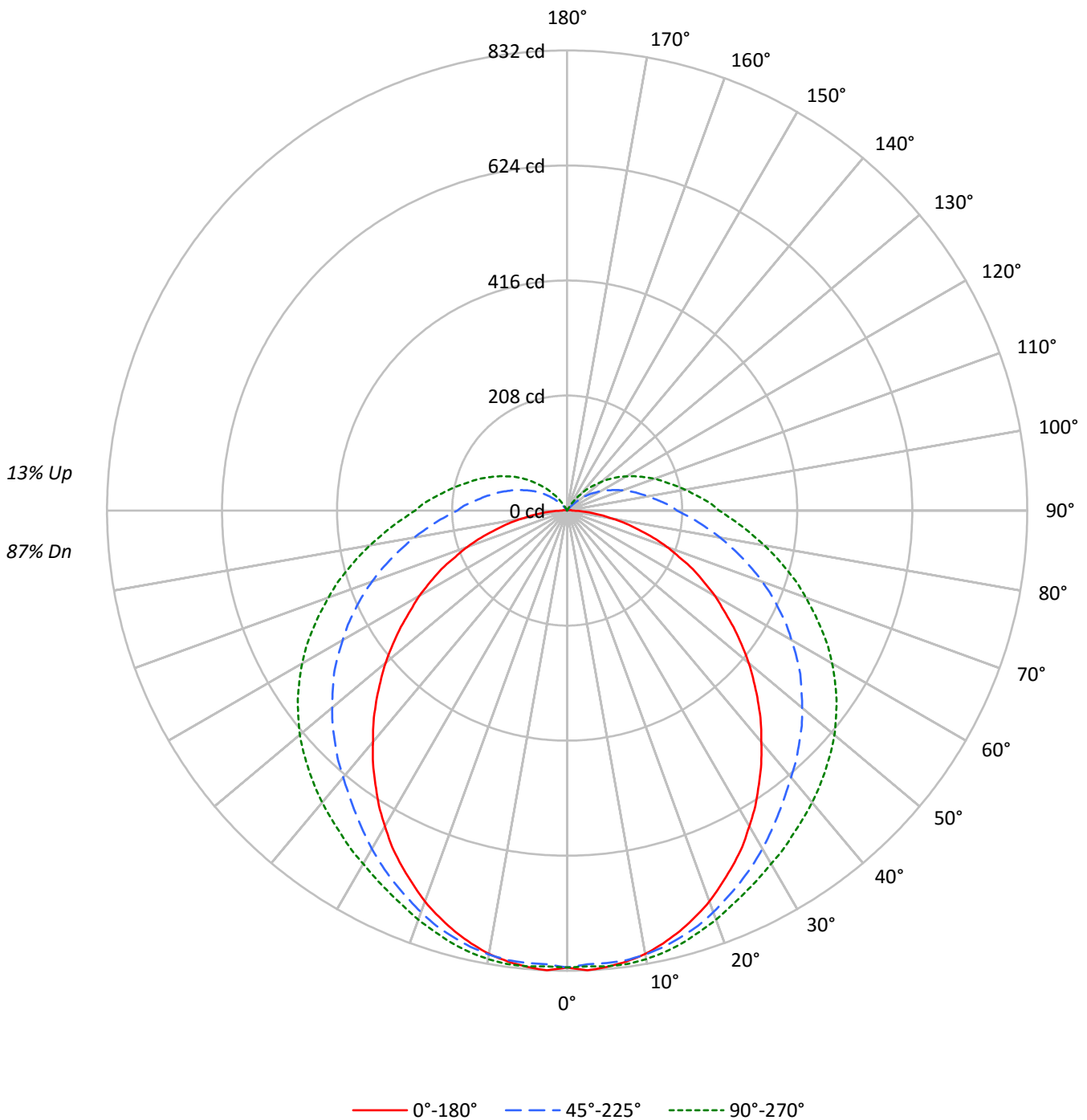
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	24474	24474	24474
5°	24593	23120	22828
10°	24395	22024	21419
15°	24009	20880	20043
20°	23530	19739	18754
25°	22933	18637	17607
30°	22263	17612	16677
35°	21534	16638	15903
40°	20752	15817	15267
45°	20022	15127	14670
50°	19267	14469	14124
55°	18394	13853	13535
60°	17642	13133	12916
65°	16802	12449	12241
70°	15656	11747	11552
75°	14243	11003	10888
80°	12532	10310	10228
85°	10916	9657	9630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.6	2.3
10°-20°	225.7	6.7
20°-30°	341.5	10.2
30°-40°	417.3	12.4
40°-50°	453.0	13.5
50°-60°	447.1	13.3
60°-70°	400.5	11.9
70°-80°	322.2	9.6
80°-90°	232.9	6.9
90°-100°	166.8	5.0
100°-110°	119.0	3.6
110°-120°	78.8	2.3
120°-130°	44.8	1.3
130°-140°	20.0	0.6
140°-150°	4.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	645.8	19.3
0°-40°	1063.1	31.7
0°-60°	1963.2	58.6
0°-90°	2918.8	87.1
90°-120°	364.6	10.9
90°-150°	433.7	12.9
90°-180°	434.0	12.9
0°-180°	3352.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	826	826	826	826	826	
5°	828	826	821	830	827	79
15°	787	796	798	809	809	222
25°	708	727	741	758	762	326
35°	604	636	667	702	713	378
45°	488	534	593	644	661	377
55°	367	429	515	574	595	328
65°	251	328	423	488	507	247
75°	134	226	327	391	411	143
85°	40	136	237	298	316	42
90°	10	102	199	258	275	7
95°	7	81	173	229	246	5
105°	4	48	127	176	190	4
115°	2	23	87	132	145	2
125°	1	2	53	91	103	1
135°	0	0	21	51	61	0
145°	0	0	0	13	22	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°	826.0	826.0	826.0	826.0	826.0
2.5°	832.0	827.2	821.1	827.2	824.8
5°	828.4	826.0	821.1	829.6	827.2
7.5°	822.3	822.3	819.9	828.4	827.2
10°	813.9	816.3	815.1	824.8	823.5
12.5°	801.7	806.6	807.8	818.7	817.5
15°	787.2	795.7	798.1	809.0	809.0
17.5°	770.3	781.2	787.2	798.1	798.1
20°	752.1	764.2	772.7	786.0	787.2
22.5°	730.3	747.2	756.9	772.7	773.9
25°	708.5	726.7	741.2	758.1	761.8
27.5°	685.5	706.1	724.2	743.6	749.7
30°	658.8	681.8	706.1	729.1	737.6
32.5°	633.4	660.0	686.7	715.8	726.7
35°	604.3	635.8	667.3	702.4	713.3
37.5°	576.5	610.4	647.9	687.9	701.2
40°	546.2	585.0	629.8	674.6	689.1
42.5°	518.3	558.3	612.8	658.8	675.8
45°	488.1	534.1	593.4	644.3	661.3
47.5°	457.8	507.4	575.3	627.3	646.7
50°	428.7	480.8	554.7	611.6	631.0
52.5°	397.2	456.6	534.1	592.2	612.8
55°	367.0	428.7	514.7	574.1	594.6
57.5°	335.5	405.7	491.7	554.7	574.1
60°	308.8	379.1	468.7	532.9	553.5
62.5°	278.6	353.6	446.9	509.9	531.7
65°	250.7	328.2	422.7	488.1	507.4
67.5°	219.2	302.8	399.7	463.9	483.2
70°	191.4	277.3	375.4	439.6	459.0
72.5°	163.5	253.1	351.2	416.6	436.0
75°	134.4	226.5	327.0	391.2	410.6
77.5°	109.0	202.3	302.8	367.0	386.3
80°	82.4	178.0	281.0	344.0	362.1
82.5°	60.6	156.2	258.0	320.9	337.9
85°	40.0	135.6	237.4	297.9	316.1
87.5°	23.0	117.5	216.8	277.3	294.3
90°	9.7	101.7	198.6	258.0	274.9
92.5°	7.3	92.0	187.7	244.6	261.6
95°	7.3	81.1	173.2	228.9	245.9
97.5°	6.1	71.5	159.9	214.4	230.1
100°	4.8	63.0	149.0	201.0	216.8
102.5°	4.8	55.7	136.9	187.7	203.5
105°	3.6	48.4	127.2	175.6	190.1
107.5°	3.6	41.2	116.3	164.7	179.2
110°	2.4	35.1	106.6	153.8	168.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	29.1	96.9	142.9	156.2
115°	2.4	23.0	87.2	132.0	145.3
117.5°	1.2	17.0	78.7	121.1	134.4
120°	1.2	12.1	70.2	110.2	123.5
122.5°	1.2	6.1	60.6	100.5	113.8
125°	1.2	2.4	53.3	90.8	102.9
127.5°	0.0	0.0	44.8	79.9	92.0
130°	0.0	0.0	36.3	70.2	81.1
132.5°	0.0	0.0	29.1	60.6	70.2
135°	0.0	0.0	20.6	50.9	60.6
137.5°	0.0	0.0	13.3	41.2	50.9
140°	0.0	0.0	6.1	31.5	40.0
142.5°	0.0	0.0	1.2	23.0	30.3
145°	0.0	0.0	0.0	13.3	21.8
147.5°	0.0	0.0	0.0	4.8	12.1
150°	0.0	0.0	0.0	0.0	3.6
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)