

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: P243034

Luminaire Tested: **S121DR-H880D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243034
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-H880D935-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: 2869.8 lumens
Efficiency: N/A
Efficacy: 91.1 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

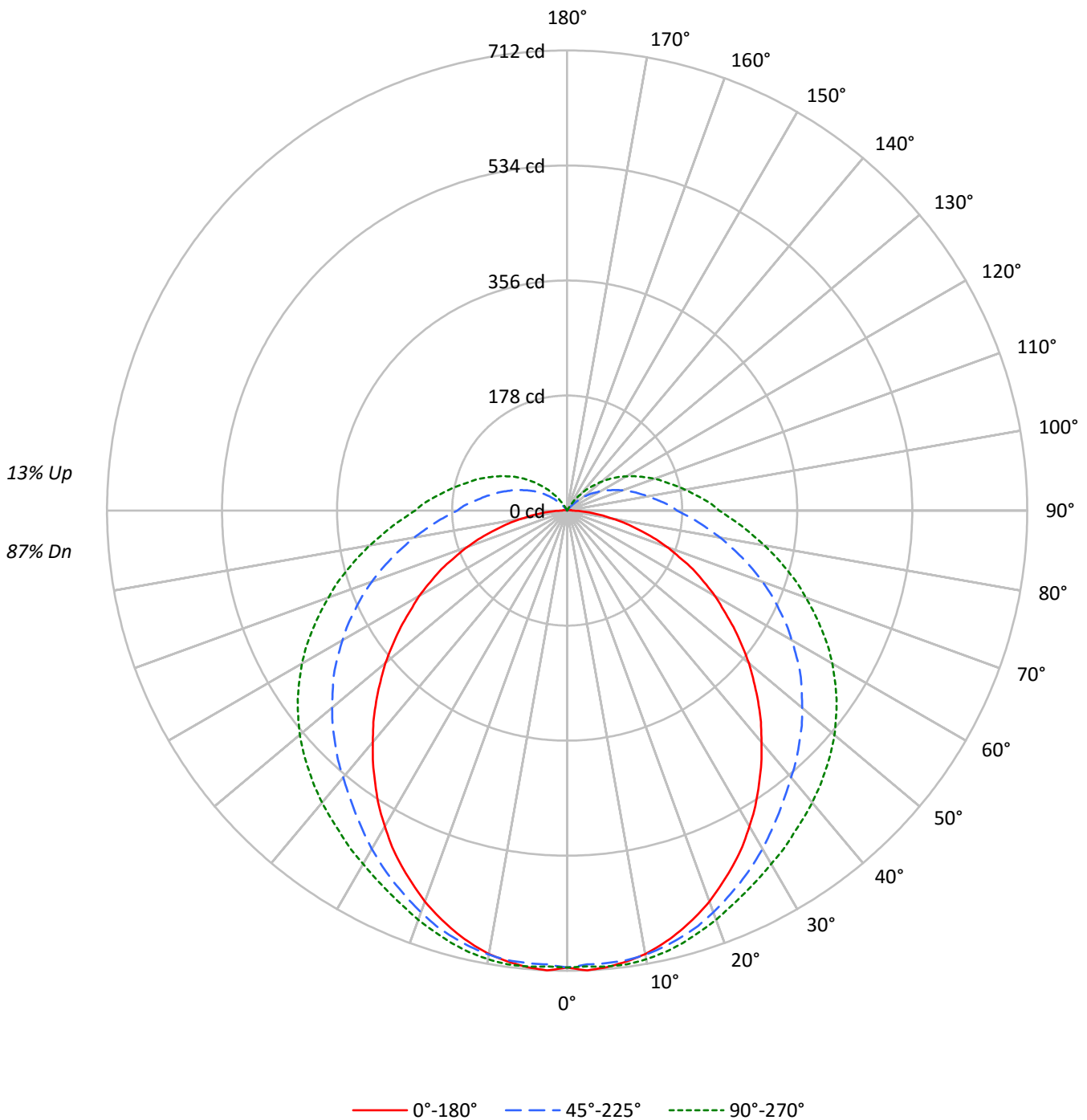
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	20948	20948	20948
5°	21051	19792	19541
10°	20882	18852	18337
15°	20553	17874	17156
20°	20142	16896	16055
25°	19631	15954	15072
30°	19060	15076	14276
35°	18434	14242	13613
40°	17766	13539	13069
45°	17138	12950	12558
50°	16494	12385	12090
55°	15742	11859	11586
60°	15106	11241	11056
65°	14382	10656	10480
70°	13399	10057	9889
75°	12198	9418	9321
80°	10722	8824	8756
85°	9333	8265	8243



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	2.3
10°-20°	193.2	6.7
20°-30°	292.3	10.2
30°-40°	357.2	12.4
40°-50°	387.8	13.5
50°-60°	382.7	13.3
60°-70°	342.8	11.9
70°-80°	275.8	9.6
80°-90°	199.3	6.9
90°-100°	142.7	5.0
100°-110°	101.9	3.6
110°-120°	67.4	2.3
120°-130°	38.4	1.3
130°-140°	17.1	0.6
140°-150°	3.6	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	552.8	19.3
0°-40°	910.1	31.7
0°-60°	1680.6	58.6
0°-90°	2498.6	87.1
90°-120°	312.1	10.9
90°-150°	371.2	12.9
90°-180°	371.0	12.9
0°-180°	2869.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	707	707	707	707	707	
5°	709	707	703	710	708	67
15°	674	681	683	692	692	190
25°	606	622	634	649	652	279
35°	517	544	571	601	611	324
45°	418	457	508	552	566	322
55°	314	367	441	491	509	281
65°	215	281	362	418	434	211
75°	115	194	280	335	352	123
85°	34	116	203	255	271	36
90°	8	87	170	221	235	6
95°	6	70	148	196	210	5
105°	3	42	109	150	163	4
115°	2	20	75	113	124	2
125°	1	2	46	78	88	1
135°	0	0	18	44	52	0
145°	0	0	0	11	19	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°	707.0	707.0	707.0	707.0	707.0
2.5°	712.2	708.1	702.9	708.1	706.0
5°	709.1	707.0	702.9	710.2	708.1
7.5°	703.9	703.9	701.9	709.1	708.1
10°	696.7	698.8	697.7	706.0	705.0
12.5°	686.3	690.5	691.5	700.8	699.8
15°	673.9	681.1	683.2	692.5	692.5
17.5°	659.4	668.7	673.9	683.2	683.2
20°	643.8	654.2	661.4	672.8	673.9
22.5°	625.1	639.7	648.0	661.4	662.5
25°	606.5	622.0	634.5	649.0	652.1
27.5°	586.8	604.4	620.0	636.6	641.7
30°	564.0	583.7	604.4	624.1	631.4
32.5°	542.2	565.0	587.8	612.7	622.0
35°	517.3	544.3	571.2	601.3	610.6
37.5°	493.5	522.5	554.7	588.9	600.3
40°	467.6	500.7	539.1	577.5	589.9
42.5°	443.7	477.9	524.6	564.0	578.5
45°	417.8	457.2	508.0	551.5	566.1
47.5°	391.9	434.4	492.4	537.0	553.6
50°	367.0	411.6	474.8	523.5	540.1
52.5°	340.0	390.8	457.2	507.0	524.6
55°	314.1	367.0	440.6	491.4	509.0
57.5°	287.2	347.3	420.9	474.8	491.4
60°	264.4	324.5	401.2	456.2	473.8
62.5°	238.4	302.7	382.6	436.5	455.1
65°	214.6	281.0	361.8	417.8	434.4
67.5°	187.6	259.2	342.1	397.1	413.7
70°	163.8	237.4	321.4	376.3	392.9
72.5°	140.0	216.7	300.7	356.6	373.2
75°	115.1	193.9	279.9	334.9	351.5
77.5°	93.3	173.1	259.2	314.1	330.7
80°	70.5	152.4	240.5	294.4	310.0
82.5°	51.8	133.7	220.8	274.7	289.2
85°	34.2	116.1	203.2	255.0	270.6
87.5°	19.7	100.6	185.6	237.4	251.9
90°	8.3	87.1	170.0	220.8	235.3
92.5°	6.2	78.8	160.7	209.4	223.9
95°	6.2	69.5	148.3	195.9	210.5
97.5°	5.2	61.2	136.8	183.5	197.0
100°	4.1	53.9	127.5	172.1	185.6
102.5°	4.1	47.7	117.2	160.7	174.2
105°	3.1	41.5	108.9	150.3	162.8
107.5°	3.1	35.2	99.5	141.0	153.4
110°	2.1	30.1	91.2	131.7	144.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.1	24.9	82.9	122.3	133.7
115°	2.1	19.7	74.6	113.0	124.4
117.5°	1.0	14.5	67.4	103.7	115.1
120°	1.0	10.4	60.1	94.3	105.7
122.5°	1.0	5.2	51.8	86.0	97.5
125°	1.0	2.1	45.6	77.8	88.1
127.5°	0.0	0.0	38.4	68.4	78.8
130°	0.0	0.0	31.1	60.1	69.5
132.5°	0.0	0.0	24.9	51.8	60.1
135°	0.0	0.0	17.6	43.5	51.8
137.5°	0.0	0.0	11.4	35.2	43.5
140°	0.0	0.0	5.2	27.0	34.2
142.5°	0.0	0.0	1.0	19.7	25.9
145°	0.0	0.0	0.0	11.4	18.7
147.5°	0.0	0.0	0.0	4.1	10.4
150°	0.0	0.0	0.0	0.0	3.1
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)