

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: P242154

Luminaire Tested: **S121DR-S685D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242154
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-S685D830-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: 2575.5 lumens
Efficiency: N/A
Efficacy: 97.9 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

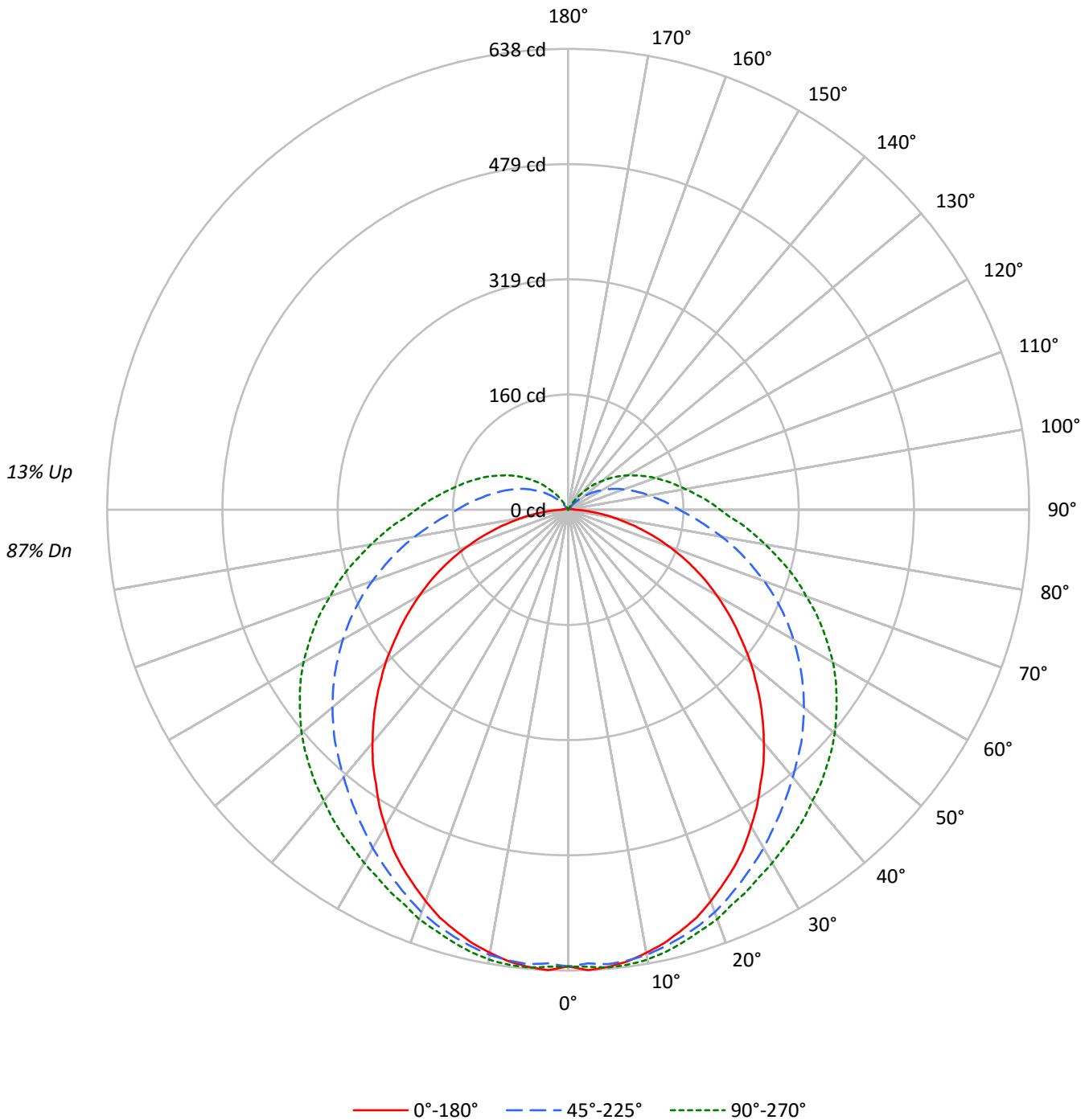
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	18738	18738	18738
5°	18860	17781	17557
10°	18673	16909	16449
15°	18397	16003	15340
20°	18046	15146	14371
25°	17634	14267	13484
30°	17103	13494	12766
35°	16524	12761	12189
40°	16007	12142	11651
45°	15428	11630	11207
50°	14827	11112	10780
55°	14174	10604	10321
60°	13569	10090	9875
65°	12948	9578	9368
70°	12106	9024	8824
75°	11085	8469	8348
80°	9885	7918	7827
85°	8487	7399	7378



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.4	2.3
10°-20°	173.2	6.7
20°-30°	261.9	10.2
30°-40°	320.2	12.4
40°-50°	347.6	13.5
50°-60°	342.9	13.3
60°-70°	307.8	12.0
70°-80°	247.7	9.6
80°-90°	178.9	6.9
90°-100°	127.9	5.0
100°-110°	91.6	3.6
110°-120°	61.1	2.4
120°-130°	35.1	1.4
130°-140°	15.8	0.6
140°-150°	3.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	495.4	19.2
0°-40°	815.6	31.7
0°-60°	1506.1	58.5
0°-90°	2240.6	87.0
90°-120°	280.5	10.9
90°-150°	334.9	13.0
90°-180°	335.0	13.0
0°-180°	2575.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	632	632	632	632	632	
5°	635	634	632	637	636	60
15°	603	612	612	620	619	170
25°	545	559	567	581	583	251
35°	464	489	512	537	547	291
45°	376	410	456	493	505	290
55°	283	332	394	439	453	253
65°	193	254	325	373	388	191
75°	105	175	252	300	315	111
85°	31	106	182	228	242	33
90°	8	79	154	197	210	6
95°	7	63	133	175	187	5
105°	4	38	97	135	146	4
115°	3	19	68	101	111	3
125°	2	3	42	70	79	2
135°	1	1	16	40	47	1
145°	0	0	0	11	16	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°	632.4	632.4	632.4	632.4	632.4
2.5°	638.1	635.3	628.7	635.3	633.4
5°	635.3	634.3	631.5	637.2	636.2
7.5°	630.6	632.4	629.6	637.2	635.3
10°	623.0	627.7	625.8	633.4	632.4
12.5°	614.5	620.2	619.2	627.7	626.8
15°	603.2	611.7	611.7	620.2	619.2
17.5°	591.9	600.4	603.2	612.7	610.8
20°	576.8	588.1	592.9	601.3	603.2
22.5°	560.8	574.9	580.6	591.0	591.9
25°	544.8	558.9	567.4	580.6	583.4
27.5°	526.9	542.9	554.2	569.3	573.1
30°	506.1	525.9	541.0	558.0	564.6
32.5°	486.4	508.0	525.9	548.6	555.2
35°	463.7	489.2	511.8	537.2	546.7
37.5°	443.9	470.3	497.7	526.9	537.2
40°	421.3	449.6	483.5	515.6	525.9
42.5°	398.7	430.7	469.4	505.2	516.5
45°	376.1	410.0	456.2	492.9	505.2
47.5°	352.5	391.2	441.1	480.7	493.9
50°	329.9	371.4	426.0	467.5	481.6
52.5°	305.4	351.6	410.0	453.4	467.5
55°	282.8	331.8	394.0	439.2	453.4
57.5°	260.1	312.0	377.0	423.2	439.2
60°	237.5	292.2	360.1	407.2	423.2
62.5°	215.8	273.3	343.1	391.2	405.3
65°	193.2	254.5	325.2	373.2	388.3
67.5°	170.6	234.7	307.3	355.3	370.4
70°	148.0	214.0	288.4	337.4	350.6
72.5°	126.3	195.1	269.6	319.5	333.7
75°	104.6	175.3	251.7	299.7	314.8
77.5°	83.9	156.5	233.8	281.8	295.0
80°	65.0	137.6	215.8	263.9	277.1
82.5°	47.1	121.6	197.9	245.1	259.2
85°	31.1	105.6	181.9	228.1	242.2
87.5°	18.9	91.4	166.8	212.1	223.4
90°	8.5	79.2	153.6	197.0	210.2
92.5°	7.5	70.7	143.3	186.6	198.9
95°	6.6	63.2	132.9	175.3	186.6
97.5°	5.7	55.6	122.5	164.0	175.3
100°	4.7	49.0	114.0	153.6	164.9
102.5°	4.7	43.4	105.6	143.3	154.6
105°	3.8	37.7	97.1	134.8	146.1
107.5°	3.8	33.0	89.5	126.3	136.7
110°	3.8	28.3	82.0	117.8	128.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.8	23.6	75.4	109.3	119.7
115°	2.8	18.9	67.9	100.9	111.2
117.5°	2.8	14.1	61.3	93.3	102.7
120°	1.9	10.4	53.7	85.8	95.2
122.5°	1.9	6.6	48.1	77.3	86.7
125°	1.9	2.8	41.5	69.7	79.2
127.5°	1.9	0.9	34.9	62.2	70.7
130°	0.9	0.9	29.2	54.7	62.2
132.5°	0.9	0.9	22.6	47.1	55.6
135°	0.9	0.9	16.0	39.6	47.1
137.5°	0.9	0.0	10.4	32.0	38.6
140°	0.9	0.0	5.7	25.4	31.1
142.5°	0.9	0.0	0.9	17.9	24.5
145°	0.0	0.0	0.0	11.3	16.0
147.5°	0.0	0.0	0.0	4.7	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)