

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P903542

Luminaire Tested: DFN2DIP-SQ2F0-060D030US830-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P903542
REPORT IS A COMBINATION OF REPORTS P899778 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-060D030US830-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

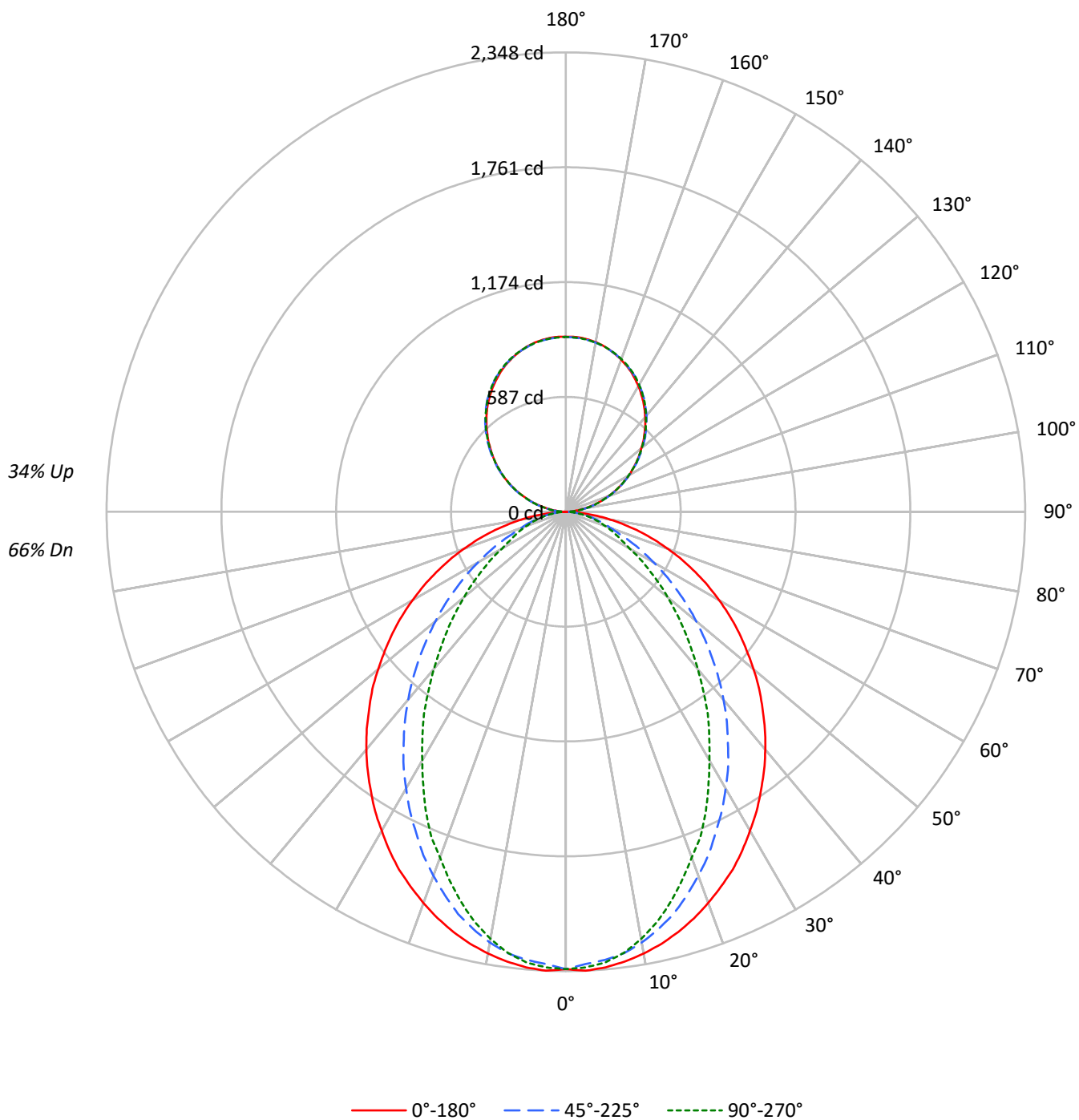
Lumens per Lamp: N/A
Luminaire Lumens: 7309.4 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 77.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P903542

CATALOG NUMBER: DFN2DIP-SQ2F0-060D030US830-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P903542

CATALOG NUMBER: DFN2DIP-SQ2F0-060D030US830-RLFL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71
1	102	98	94	91	96	92	89	86	82	79	77	72	70	69	63	62	61
2	93	86	80	75	88	81	76	72	72	68	65	64	61	58	57	54	52
3	86	76	69	63	80	72	66	61	65	59	55	57	53	50	51	48	45
4	79	68	60	54	74	65	58	52	58	52	48	52	47	44	46	42	40
5	73	61	53	47	68	58	51	45	52	46	42	47	42	38	42	38	35
6	67	55	47	41	63	52	45	40	47	41	37	42	38	34	38	34	31
7	62	50	42	37	59	48	40	35	43	37	33	39	34	30	35	31	28
8	58	46	38	33	55	44	37	32	40	34	29	36	31	27	32	28	25
9	54	42	35	29	51	40	33	29	36	31	27	33	28	25	30	26	23
10	51	39	31	27	48	37	30	26	34	28	24	31	26	23	28	24	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5139	5139	5139
5°	5139	5047	5083
10°	5079	4937	4911
15°	5000	4763	4648
20°	4899	4527	4329
25°	4795	4266	4021
30°	4658	3998	3632
35°	4524	3712	3291
40°	4387	3417	2901
45°	4229	3092	2549
50°	4065	2764	2204
55°	3892	2415	1874
60°	3692	2052	1536
65°	3462	1684	1374
70°	3181	1341	1234
75°	2829	1161	1108
80°	2323	942	938
85°	1512	586	669

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4229 cd/sqm

TEST NUMBER: P903542

CATALOG NUMBER: DFN2DIP-SQ2F0-060D030US830-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.1	3.0
10°-20°	601.3	8.2
20°-30°	844.3	11.6
30°-40°	920.3	12.6
40°-50°	845.9	11.6
50°-60°	664.3	9.1
60°-70°	432.4	5.9
70°-80°	222.6	3.0
80°-90°	59.4	0.8
90°-100°	55.3	0.8
100°-110°	175.8	2.4
110°-120°	300.9	4.1
120°-130°	395.7	5.4
130°-140°	444.2	6.1
140°-150°	435.6	6.0
150°-160°	365.4	5.0
160°-170°	242.3	3.3
170°-180°	84.7	1.2
0°-30°	1664.7	22.8
0°-40°	2585.0	35.4
0°-60°	4095.1	56.0
0°-90°	4809.5	65.8
90°-120°	532.1	7.3
90°-150°	1807.5	24.7
90°-180°	2500.0	34.2
0°-180°	7309.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2337	2337	2337	2337	2337	
5°	2337	2327	2299	2318	2312	222
15°	2223	2200	2128	2088	2067	626
25°	2018	1950	1811	1724	1692	928
35°	1739	1631	1445	1312	1265	1088
45°	1421	1280	1058	907	857	1098
55°	1081	916	687	561	520	966
65°	730	558	368	296	290	724
75°	389	241	169	154	152	412
85°	91	46	40	40	40	104
90°	1	10	26	25	26	7
95°	39	47	48	48	47	44
105°	162	164	166	167	167	171
115°	302	306	305	304	302	299
125°	439	446	444	441	440	392
135°	568	576	578	577	575	439
145°	690	695	699	700	697	431
155°	789	791	793	797	795	363
165°	858	857	857	862	859	242
175°	893	890	889	894	890	85
180°	894	894	894	894	894	

TEST NUMBER: P903542

CATALOG NUMBER: DFN2DIP-SQ2F0-060D030US830-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2337.3	2337.3	2337.3	2337.3	2337.3
2.5°	2347.9	2337.3	2313.9	2335.2	2331.0
5°	2337.3	2326.8	2299.1	2318.3	2312.0
7.5°	2318.3	2305.6	2276.1	2284.3	2273.8
10°	2292.8	2278.0	2235.9	2229.4	2216.8
12.5°	2261.3	2242.1	2184.9	2172.4	2149.0
15°	2223.1	2199.7	2127.9	2087.7	2066.6
17.5°	2178.7	2144.8	2055.9	2009.4	1975.6
20°	2127.9	2085.5	1979.8	1927.0	1880.4
22.5°	2072.9	2024.2	1901.5	1829.7	1798.0
25°	2018.0	1950.2	1810.6	1724.0	1692.1
27.5°	1952.5	1880.4	1726.0	1626.5	1577.9
30°	1882.6	1802.0	1632.9	1525.1	1467.9
32.5°	1814.9	1717.5	1544.3	1417.2	1364.2
35°	1738.8	1630.9	1444.8	1311.5	1264.8
37.5°	1664.7	1548.2	1351.7	1205.6	1152.8
40°	1586.4	1459.6	1254.2	1104.1	1049.1
42.5°	1506.1	1370.7	1157.1	1000.4	947.7
45°	1421.4	1279.6	1057.7	907.3	856.6
47.5°	1341.1	1191.0	962.5	812.2	765.7
50°	1252.3	1102.1	869.4	723.3	679.1
52.5°	1165.4	1006.7	780.5	640.9	600.8
55°	1080.8	915.9	687.4	560.6	520.4
57.5°	994.2	824.9	605.0	486.5	452.6
60°	905.3	736.1	518.2	410.5	376.5
62.5°	818.7	649.5	444.1	342.7	325.8
65°	729.8	558.4	368.1	296.2	289.7
67.5°	645.2	473.7	296.2	260.1	253.8
70°	556.3	391.3	245.2	224.2	215.7
72.5°	471.7	315.1	205.1	188.3	184.0
75°	389.2	241.0	169.2	154.4	152.4
77.5°	306.8	171.3	133.3	124.8	120.6
80°	230.5	122.7	101.4	93.1	93.1
82.5°	160.7	82.6	69.7	65.5	65.5
85°	90.9	46.5	40.2	40.2	40.2
87.5°	33.9	16.9	16.9	14.8	14.8
90°	0.8	9.7	26.4	24.8	25.6
92.5°	16.7	22.6	23.5	24.2	24.2
95°	39.4	46.9	48.3	48.3	46.9
97.5°	65.5	72.5	75.5	75.5	75.5
100°	95.7	101.9	104.1	104.1	103.3
102.5°	127.5	132.1	135.1	135.9	135.1
105°	162.3	164.5	166.1	167.4	167.4
107.5°	196.8	200.0	200.0	200.6	196.8
110°	230.3	234.6	234.6	234.6	232.4



TEST NUMBER: P903542

CATALOG NUMBER: DFN2DIP-SQ2F0-060D030US830-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	266.4	271.0	270.1	268.0	266.4
115°	302.0	306.2	304.9	304.2	302.0
117.5°	337.2	343.2	339.4	337.2	335.1
120°	372.9	378.8	372.9	372.9	370.4
122.5°	405.2	412.7	409.0	406.8	405.2
125°	439.2	445.9	443.7	441.3	440.5
127.5°	472.3	480.7	477.8	474.5	472.3
130°	503.3	513.0	511.7	510.1	507.1
132.5°	538.1	545.6	546.2	542.4	540.3
135°	568.1	576.4	578.1	577.2	575.0
137.5°	601.4	608.2	609.5	609.1	605.8
140°	630.8	637.6	641.4	641.4	638.4
142.5°	661.1	667.8	670.0	670.8	667.8
145°	689.7	695.0	699.4	700.1	697.2
147.5°	715.3	722.0	725.2	726.6	723.6
150°	741.7	746.3	749.2	751.7	749.2
152.5°	765.2	769.7	773.5	776.5	773.5
155°	788.6	790.7	793.1	796.9	794.6
157.5°	808.8	810.4	811.8	817.2	813.4
160°	826.9	828.5	829.3	833.9	830.7
162.5°	843.6	843.6	844.4	849.5	845.7
165°	857.9	857.1	857.1	862.4	858.7
167.5°	870.8	868.4	868.4	873.7	870.0
170°	880.5	878.4	877.6	883.0	878.4
172.5°	887.2	885.1	884.3	889.7	885.1
175°	892.7	890.5	888.9	894.3	889.7
177.5°	895.6	893.4	891.8	896.5	891.8
180°	894.3	894.3	894.3	894.3	894.3

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	14.08	15.06	14.90	15.89	16.92	10.04	11.02	10.86	11.85	12.88
	3H	15.75	16.62	16.58	17.47	18.52	11.22	12.10	12.05	12.94	14.00
	4H	16.35	17.18	17.20	18.03	19.09	11.67	12.49	12.51	13.34	14.41
	6H	16.76	17.52	17.62	18.38	19.46	11.98	12.74	12.84	13.60	14.68
	8H	16.89	17.61	17.75	18.48	19.57	12.06	12.79	12.93	13.66	14.74
	12H	16.94	17.63	17.82	18.50	19.61	12.10	12.79	12.98	13.66	14.77
4H	2H	14.11	14.94	14.96	15.79	16.85	10.64	11.47	11.49	12.32	13.39
	3H	15.93	16.62	16.79	17.50	18.58	11.99	12.67	12.85	13.55	14.64
	4H	16.61	17.24	17.49	18.12	19.23	12.52	13.15	13.40	14.03	15.14
	6H	17.12	17.65	18.01	18.56	19.67	12.93	13.47	13.82	14.37	15.49
	8H	17.28	17.79	18.18	18.69	19.81	13.05	13.55	13.94	14.45	15.58
	12H	17.38	17.83	18.29	18.75	19.88	13.11	13.56	14.02	14.48	15.61
8H	4H	16.59	17.09	17.48	17.99	19.11	12.80	13.30	13.69	14.20	15.33
	6H	17.14	17.55	18.06	18.49	19.62	13.30	13.72	14.22	14.66	15.78
	8H	17.34	17.71	18.27	18.64	19.79	13.48	13.85	14.41	14.78	15.92
	12H	17.47	17.80	18.40	18.72	19.92	13.59	13.91	14.52	14.84	16.03
12H	4H	16.55	17.00	17.46	17.91	19.05	12.81	13.26	13.72	14.18	15.31
	6H	17.11	17.48	18.04	18.41	19.56	13.35	13.71	14.28	14.65	15.79
	8H	17.32	17.65	18.26	18.57	19.77	13.55	13.87	14.48	14.80	15.99