

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: P922746

Luminaire Tested: DFN2DIP-SQ3F0-050D040US940-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922746
REPORT IS A COMBINATION OF REPORTS P899864 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D040US940-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

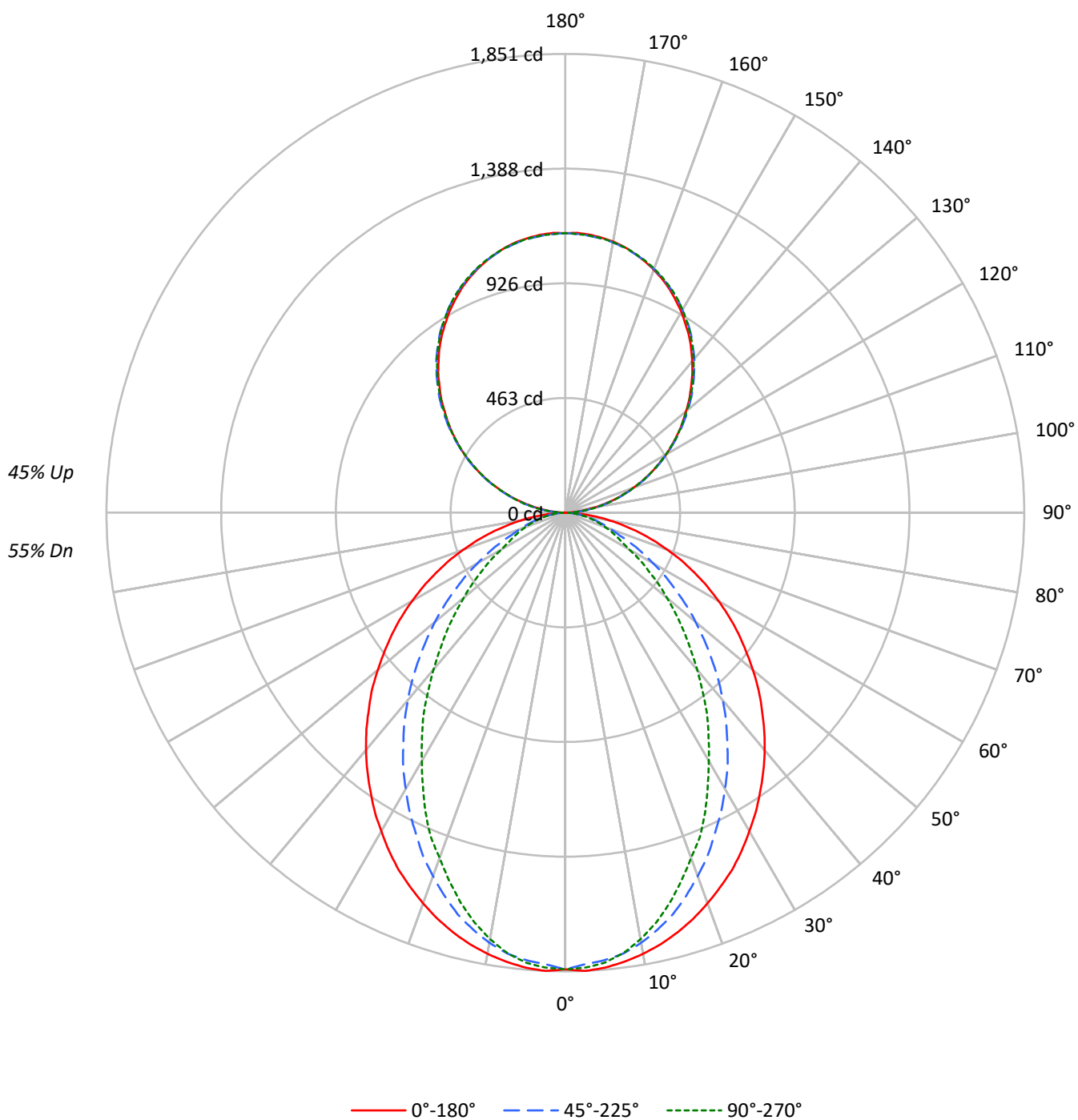
Lumens per Lamp: N/A
Luminaire Lumens: 6946.5 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 72.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	54	53	52
2	91	84	78	73	84	78	73	69	67	63	60	57	55	52	48	46	45
3	83	74	67	61	77	69	63	58	60	55	51	51	48	45	43	41	39
4	76	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34
5	70	59	51	45	65	55	48	43	48	43	38	42	37	34	35	32	30
6	65	53	45	40	60	50	43	38	44	38	34	38	33	30	32	29	26
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24
8	56	44	36	31	52	41	34	30	36	31	27	32	27	24	27	24	21
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	25	22	19
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2111	2111	2111
5°	2113	2077	2090
10°	2091	2034	2022
15°	2061	1966	1916
20°	2022	1872	1786
25°	1981	1767	1661
30°	1928	1659	1503
35°	1875	1543	1364
40°	1821	1424	1204
45°	1759	1292	1060
50°	1694	1158	919
55°	1626	1016	783
60°	1548	867	644
65°	1458	716	579
70°	1348	575	523
75°	1211	504	474
80°	1012	418	409
85°	687	273	304

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1759 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.7	2.5
10°-20°	474.1	6.8
20°-30°	665.6	9.6
30°-40°	725.6	10.4
40°-50°	666.9	9.6
50°-60°	523.7	7.5
60°-70°	340.9	4.9
70°-80°	175.5	2.5
80°-90°	48.0	0.7
90°-100°	69.8	1.0
100°-110°	221.8	3.2
110°-120°	379.5	5.5
120°-130°	499.2	7.2
130°-140°	560.3	8.1
140°-150°	549.4	7.9
150°-160°	460.9	6.6
160°-170°	305.7	4.4
170°-180°	106.8	1.5
0°-30°	1312.4	18.9
0°-40°	2038.0	29.3
0°-60°	3228.6	46.5
0°-90°	3793.0	54.6
90°-120°	671.2	9.7
90°-150°	2280.1	32.8
90°-180°	3153.0	45.4
0°-180°	6946.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1834	1813	1828	1823	175
15°	1753	1734	1678	1646	1629	494
25°	1591	1538	1427	1359	1334	732
35°	1371	1286	1139	1034	997	858
45°	1121	1009	834	715	675	865
55°	852	722	542	442	410	761
65°	575	440	290	234	228	570
75°	307	190	133	122	120	324
85°	72	37	32	32	32	82
90°	1	12	33	31	32	7
95°	50	59	61	61	59	55
105°	205	207	210	211	211	216
115°	381	386	385	384	381	377
125°	554	562	560	557	556	495
135°	717	727	729	728	725	554
145°	870	877	882	883	880	544
155°	995	998	1000	1005	1002	458
165°	1082	1081	1081	1088	1083	305
175°	1126	1123	1121	1128	1122	107
180°	1128	1128	1128	1128	1128	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1842.7	1842.7	1842.7	1842.7	1842.7
2.5°	1851.0	1842.7	1824.4	1841.1	1837.7
5°	1842.7	1834.4	1812.7	1827.6	1822.7
7.5°	1827.6	1817.8	1794.4	1801.0	1792.6
10°	1807.7	1796.0	1762.7	1757.7	1747.7
12.5°	1782.7	1767.7	1722.6	1712.7	1694.2
15°	1752.7	1734.3	1677.7	1646.0	1629.3
17.5°	1717.6	1691.0	1620.9	1584.2	1557.5
20°	1677.7	1644.2	1560.8	1519.3	1482.5
22.5°	1634.3	1595.9	1499.1	1442.5	1417.6
25°	1590.9	1537.5	1427.4	1359.1	1334.0
27.5°	1539.3	1482.5	1360.8	1282.4	1244.0
30°	1484.3	1420.8	1287.4	1202.4	1157.3
32.5°	1430.8	1354.1	1217.5	1117.3	1075.6
35°	1370.8	1285.8	1139.1	1033.9	997.2
37.5°	1312.4	1220.7	1065.7	950.5	908.9
40°	1250.7	1150.8	988.8	870.5	827.2
42.5°	1187.4	1080.7	912.2	788.7	747.2
45°	1120.7	1008.9	833.8	715.3	675.3
47.5°	1057.3	939.0	758.8	640.3	603.7
50°	987.3	868.9	685.5	570.2	535.4
52.5°	918.8	793.7	615.4	505.3	473.7
55°	852.1	722.0	541.9	441.9	410.3
57.5°	783.8	650.4	477.0	383.6	356.9
60°	713.7	580.3	408.5	323.6	296.9
62.5°	645.4	512.0	350.2	270.2	256.9
65°	575.3	440.2	290.2	233.5	228.5
67.5°	508.6	373.5	233.5	205.1	200.1
70°	438.6	308.5	193.4	176.7	170.0
72.5°	371.9	248.4	161.8	148.5	145.1
75°	306.8	190.0	133.4	121.7	120.1
77.5°	241.8	135.0	105.1	98.4	95.0
80°	181.7	96.8	80.0	73.4	73.4
82.5°	126.7	65.1	55.0	51.6	51.6
85°	71.7	36.6	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
90°	1.0	12.2	33.3	31.3	32.3
92.5°	21.0	28.5	29.6	30.6	30.6
95°	49.7	59.2	60.9	60.9	59.2
97.5°	82.7	91.5	95.2	95.2	95.2
100°	120.7	128.6	131.3	131.3	130.3
102.5°	160.9	166.7	170.4	171.4	170.4
105°	204.7	207.4	209.5	211.2	211.2
107.5°	248.3	252.4	252.4	253.0	248.3
110°	290.4	295.9	295.9	295.9	293.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	336.0	341.8	340.7	338.0	336.0
115°	380.8	386.4	384.6	383.6	380.8
117.5°	425.4	432.9	428.2	425.4	422.8
120°	470.4	477.8	470.4	470.4	467.3
122.5°	511.1	520.7	515.9	513.2	511.1
125°	554.0	562.5	559.8	556.7	555.7
127.5°	595.8	606.4	602.6	598.5	595.8
130°	634.9	647.2	645.5	643.5	639.7
132.5°	678.8	688.3	689.0	684.2	681.5
135°	716.6	727.1	729.2	728.1	725.4
137.5°	758.8	767.2	768.9	768.2	764.2
140°	795.8	804.3	809.0	809.0	805.3
142.5°	833.9	842.4	845.1	846.1	842.4
145°	870.0	876.7	882.2	883.2	879.5
147.5°	902.2	910.7	914.8	916.5	912.8
150°	935.6	941.4	945.1	948.2	945.1
152.5°	965.2	970.9	975.7	979.5	975.7
155°	994.7	997.5	1000.5	1005.3	1002.2
157.5°	1020.3	1022.3	1024.0	1030.8	1026.0
160°	1043.0	1045.1	1046.1	1051.9	1047.8
162.5°	1064.1	1064.1	1065.1	1071.6	1066.8
165°	1082.2	1081.1	1081.1	1087.9	1083.2
167.5°	1098.5	1095.4	1095.4	1102.2	1097.4
170°	1110.7	1108.0	1107.0	1113.7	1108.0
172.5°	1119.2	1116.5	1115.4	1122.3	1116.5
175°	1126.1	1123.3	1121.2	1128.0	1122.3
177.5°	1129.8	1127.0	1125.0	1130.8	1125.0
180°	1128.0	1128.0	1128.0	1128.0	1128.0

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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	10.13	11.00	11.05	11.93	13.14	6.09	6.96	7.01	7.90	9.10
	3H	11.80	12.58	12.74	13.53	14.76	7.27	8.05	8.21	9.00	10.23
	4H	12.41	13.15	13.36	14.10	15.34	7.72	8.46	8.67	9.41	10.65
	6H	12.83	13.51	13.79	14.46	15.72	8.04	8.71	9.00	9.67	10.92
	8H	12.96	13.60	13.92	14.57	15.82	8.13	8.77	9.10	9.74	10.99
	12H	13.02	13.63	13.99	14.60	15.87	8.17	8.78	9.14	9.75	11.02
4H	2H	10.15	10.88	11.11	11.83	13.07	6.69	7.42	7.64	8.37	9.61
	3H	11.98	12.59	12.94	13.57	14.82	8.03	8.64	9.00	9.62	10.88
	4H	12.67	13.22	13.64	14.20	15.48	8.58	9.13	9.55	10.11	11.39
	6H	13.18	13.66	14.17	14.66	15.93	8.99	9.47	9.98	10.47	11.75
	8H	13.35	13.80	14.34	14.79	16.08	9.12	9.56	10.11	10.56	11.85
	12H	13.45	13.85	14.45	14.86	16.15	9.18	9.58	10.19	10.59	11.89
8H	4H	12.64	13.08	13.62	14.07	15.37	8.86	9.30	9.85	10.30	11.59
	6H	13.20	13.57	14.21	14.60	15.89	9.37	9.74	10.38	10.77	12.06
	8H	13.41	13.74	14.43	14.76	16.07	9.55	9.88	10.58	10.90	12.21
	12H	13.55	13.83	14.57	14.85	16.20	9.67	9.96	10.69	10.97	12.32
12H	4H	12.59	12.99	13.60	14.00	15.30	8.86	9.27	9.87	10.27	11.57
	6H	13.17	13.50	14.19	14.52	15.83	9.42	9.74	10.44	10.76	12.07
	8H	13.39	13.68	14.42	14.69	16.05	9.62	9.91	10.65	10.92	12.28

END OF REPORT