

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: P919850

Luminaire Tested: DFN2DIP-SQ2F0-030D060US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919850
REPORT IS A COMBINATION OF REPORTS P899808 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-030D060US935-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

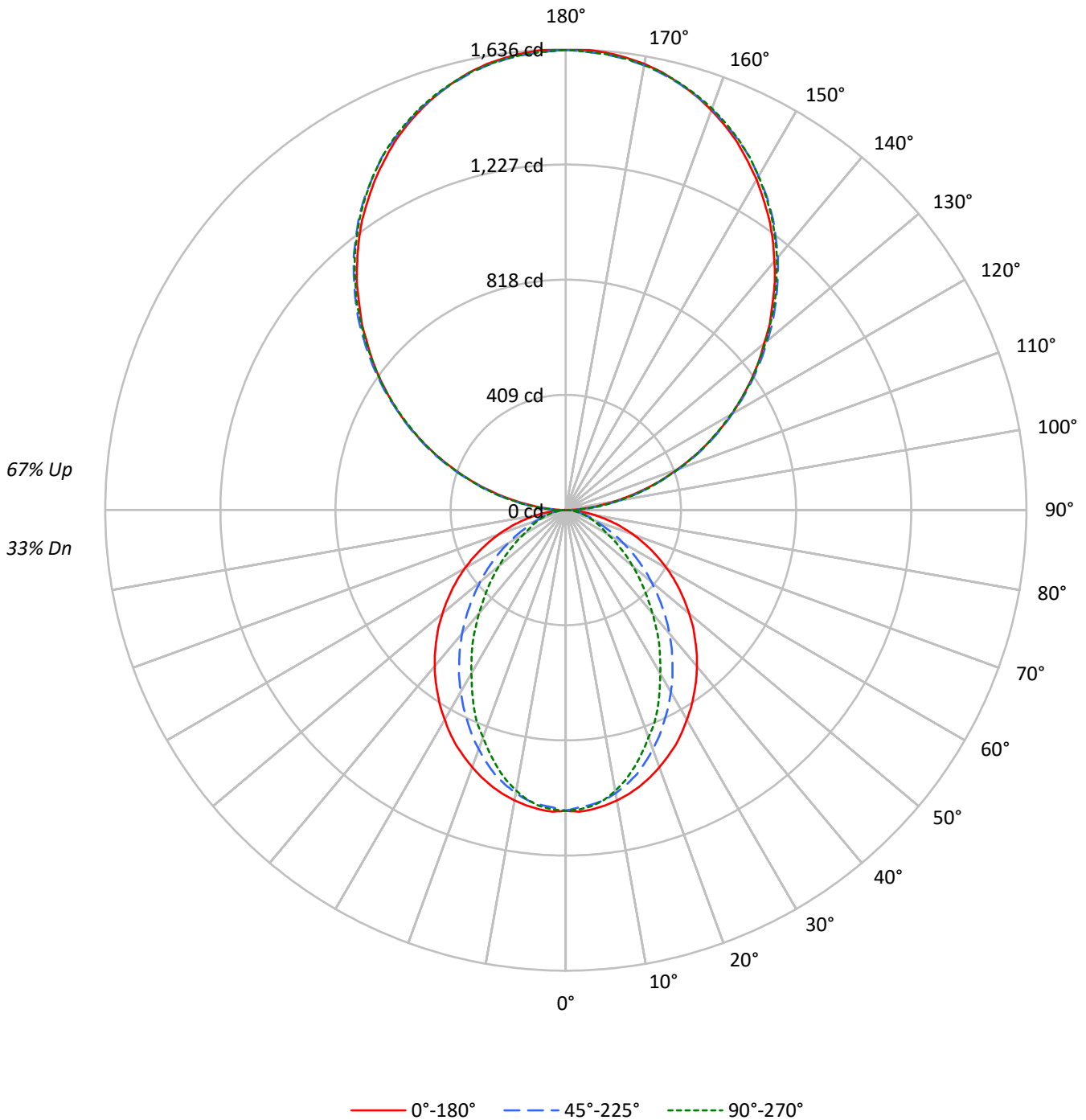
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6767.4 lumens
Efficiency: N/A
Efficacy: 98.2 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-Indirect

Input Watts (W): 68.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
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				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	50	30	10	0	
RCR																						
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33				33
1	94	90	86	83	85	81	78	75	65	63	61	50	48	47	36	35	34	28				28
2	86	79	73	68	77	71	67	62	57	54	51	44	42	40	32	31	29	24				24
3	79	70	63	57	71	63	57	52	51	46	43	39	36	34	29	27	25	21				21
4	72	62	54	49	65	56	50	45	45	41	37	35	32	29	26	24	22	18				18
5	66	55	47	42	59	50	43	38	40	36	32	32	28	26	23	21	19	16				16
6	61	49	42	36	55	45	38	33	36	32	28	29	25	23	21	19	17	14				14
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	19	17	15	13				13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11				11
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	14	13	10				10
10	45	34	27	22	41	31	25	21	25	21	18	20	17	15	15	13	11	9				9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2348	2348	2348
5°	2347	2305	2321
10°	2320	2255	2243
15°	2284	2175	2123
20°	2237	2068	1977
25°	2190	1948	1836
30°	2128	1826	1659
35°	2067	1696	1503
40°	2004	1561	1325
45°	1932	1412	1164
50°	1857	1262	1007
55°	1778	1103	856
60°	1686	937	702
65°	1581	769	628
70°	1453	612	563
75°	1292	530	506
80°	1061	430	428
85°	690	267	304

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 2277 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	1.5
10°-20°	274.7	4.1
20°-30°	385.6	5.7
30°-40°	420.3	6.2
40°-50°	386.3	5.7
50°-60°	303.4	4.5
60°-70°	197.5	2.9
70°-80°	101.7	1.5
80°-90°	30.6	0.5
90°-100°	101.1	1.5
100°-110°	321.2	4.7
110°-120°	549.7	8.1
120°-130°	723.0	10.7
130°-140°	811.5	12.0
140°-150°	795.8	11.8
150°-160°	667.5	9.9
160°-170°	442.7	6.5
170°-180°	154.7	2.3
0°-30°	760.3	11.2
0°-40°	1180.7	17.4
0°-60°	1870.4	27.6
0°-90°	2200.2	32.5
90°-120°	972.0	14.4
90°-150°	3302.3	48.8
90°-180°	4567.0	67.5
0°-180°	6767.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1063	1050	1059	1056	101
15°	1015	1005	972	954	944	286
25°	922	891	827	787	773	424
35°	794	745	660	599	578	497
45°	649	584	483	414	391	501
55°	494	418	314	256	238	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	48
90°	2	18	48	45	47	7
95°	72	86	88	88	86	80
105°	296	300	303	306	306	313
115°	552	560	557	556	552	546
125°	802	815	811	806	805	717
135°	1038	1053	1056	1055	1051	802
145°	1260	1270	1278	1279	1274	787
155°	1441	1445	1449	1456	1452	663
165°	1567	1566	1566	1576	1569	442
175°	1631	1627	1624	1634	1625	155
180°	1634	1634	1634	1634	1634	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1067.6	1067.6	1067.6	1067.6	1067.6
2.5°	1072.4	1067.6	1056.9	1066.6	1064.7
5°	1067.6	1062.7	1050.2	1058.9	1055.9
7.5°	1058.9	1053.1	1039.6	1043.4	1038.5
10°	1047.2	1040.5	1021.2	1018.2	1012.5
12.5°	1032.8	1024.1	998.0	992.2	981.5
15°	1015.4	1004.7	971.9	953.6	943.9
17.5°	995.1	979.6	939.0	917.8	902.3
20°	971.9	952.5	904.2	880.2	858.8
22.5°	946.8	924.5	868.5	835.7	821.2
25°	921.7	890.7	827.0	787.4	772.8
27.5°	891.7	858.8	788.3	743.0	720.7
30°	859.9	823.1	745.8	696.6	670.5
32.5°	828.9	784.5	705.3	647.3	623.1
35°	794.2	744.8	659.9	599.0	577.7
37.5°	760.3	707.1	617.3	550.6	526.6
40°	724.6	666.7	572.9	504.3	479.2
42.5°	687.9	626.1	528.5	456.9	432.8
45°	649.3	584.4	483.1	414.4	391.2
47.5°	612.5	544.0	439.6	370.9	349.7
50°	572.0	503.3	397.1	330.4	310.1
52.5°	532.3	459.9	356.5	292.7	274.4
55°	493.6	418.3	313.9	256.1	237.7
57.5°	454.1	376.8	276.4	222.2	206.7
60°	413.5	336.2	236.7	187.4	172.0
62.5°	373.9	296.6	202.9	156.5	148.9
65°	333.3	255.0	168.1	135.3	132.3
67.5°	294.7	216.4	135.3	118.8	115.9
70°	254.1	178.7	112.0	102.4	98.5
72.5°	215.4	143.9	93.7	86.0	84.0
75°	177.7	110.1	77.3	70.5	69.6
77.5°	140.1	78.2	60.9	57.0	55.0
80°	105.3	56.1	46.3	42.5	42.5
82.5°	73.4	37.7	31.9	30.0	30.0
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
90°	1.5	17.7	48.3	45.3	46.8
92.5°	30.6	41.4	42.9	44.3	44.3
95°	71.9	85.7	88.2	88.2	85.7
97.5°	119.7	132.5	137.9	137.9	137.9
100°	174.9	186.1	190.1	190.1	188.6
102.5°	233.0	241.3	246.8	248.2	246.8
105°	296.5	300.5	303.4	305.9	305.9
107.5°	359.6	365.5	365.5	366.4	359.6
110°	420.7	428.5	428.5	428.5	424.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	486.6	495.0	493.5	489.6	486.6
115°	551.6	559.6	557.1	555.6	551.6
117.5°	616.2	627.1	620.1	616.2	612.3
120°	681.2	692.1	681.2	681.2	676.7
122.5°	740.3	754.1	747.2	743.3	740.3
125°	802.4	814.7	810.7	806.3	804.9
127.5°	863.0	878.2	872.8	866.9	863.0
130°	919.6	937.4	934.9	931.9	926.5
132.5°	983.2	996.9	997.9	991.0	987.0
135°	1037.8	1053.1	1056.0	1054.6	1050.6
137.5°	1098.9	1111.2	1113.7	1112.7	1106.8
140°	1152.6	1164.9	1171.8	1171.8	1166.4
142.5°	1207.7	1220.0	1224.0	1225.5	1220.0
145°	1260.0	1269.8	1277.7	1279.2	1273.8
147.5°	1306.7	1319.0	1325.0	1327.4	1322.0
150°	1355.0	1363.4	1368.8	1373.2	1368.8
152.5°	1397.8	1406.3	1413.2	1418.6	1413.2
155°	1440.7	1444.7	1449.1	1456.0	1451.6
157.5°	1477.6	1480.7	1483.1	1493.0	1486.1
160°	1510.7	1513.6	1515.1	1523.4	1517.6
162.5°	1541.2	1541.2	1542.6	1552.0	1545.1
165°	1567.3	1565.8	1565.8	1575.7	1568.8
167.5°	1591.0	1586.6	1586.6	1596.4	1589.5
170°	1608.7	1604.7	1603.3	1613.1	1604.7
172.5°	1621.0	1617.0	1615.6	1625.4	1617.0
175°	1630.8	1626.9	1623.9	1633.8	1625.4
177.5°	1636.2	1632.4	1629.4	1637.7	1629.4
180°	1633.8	1633.8	1633.8	1633.8	1633.8



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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	8.10	8.80	9.19	9.89	11.40	4.06	4.76	5.15	5.85	7.36
	3H	9.74	10.37	10.85	11.48	13.00	5.22	5.85	6.32	6.95	8.47
	4H	10.33	10.93	11.45	12.03	13.56	5.65	6.25	6.77	7.35	8.87
	6H	10.73	11.28	11.86	12.39	13.93	5.95	6.50	7.07	7.60	9.14
	8H	10.85	11.37	11.98	12.49	14.02	6.02	6.55	7.15	7.67	9.20
	12H	10.90	11.39	12.03	12.51	14.06	6.06	6.55	7.19	7.67	9.22
4H	2H	8.09	8.69	9.22	9.79	11.32	4.62	5.22	5.75	6.33	7.85
	3H	9.89	10.39	11.02	11.52	13.05	5.94	6.44	7.07	7.57	9.11
	4H	10.56	11.02	11.69	12.14	13.69	6.47	6.93	7.60	8.05	9.60
	6H	11.05	11.44	12.19	12.58	14.13	6.86	7.25	8.00	8.39	9.94
	8H	11.21	11.58	12.35	12.71	14.28	6.98	7.34	8.12	8.48	10.04
	12H	11.29	11.62	12.45	12.77	14.34	7.03	7.36	8.18	8.50	10.07
8H	4H	10.51	10.88	11.65	12.01	13.58	6.73	7.09	7.87	8.23	9.79
	6H	11.05	11.36	12.22	12.53	14.09	7.22	7.52	8.38	8.69	10.26
	8H	11.26	11.52	12.42	12.67	14.26	7.39	7.66	8.56	8.81	10.40
	12H	11.38	11.61	12.55	12.76	14.38	7.49	7.72	8.66	8.88	10.49
12H	4H	10.46	10.79	11.62	11.94	13.51	6.72	7.06	7.88	8.20	9.77
	6H	11.03	11.29	12.19	12.45	14.03	7.26	7.52	8.43	8.68	10.26
	8H	11.23	11.46	12.40	12.61	14.23	7.45	7.68	8.62	8.83	10.45