

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: P915881

Luminaire Tested: DFN2DIP-4P3F0-050D030US930-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915881
REPORT IS A COMBINATION OF REPORTS P900566 AND P897473
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-4P3F0-050D030US930-RLLONL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

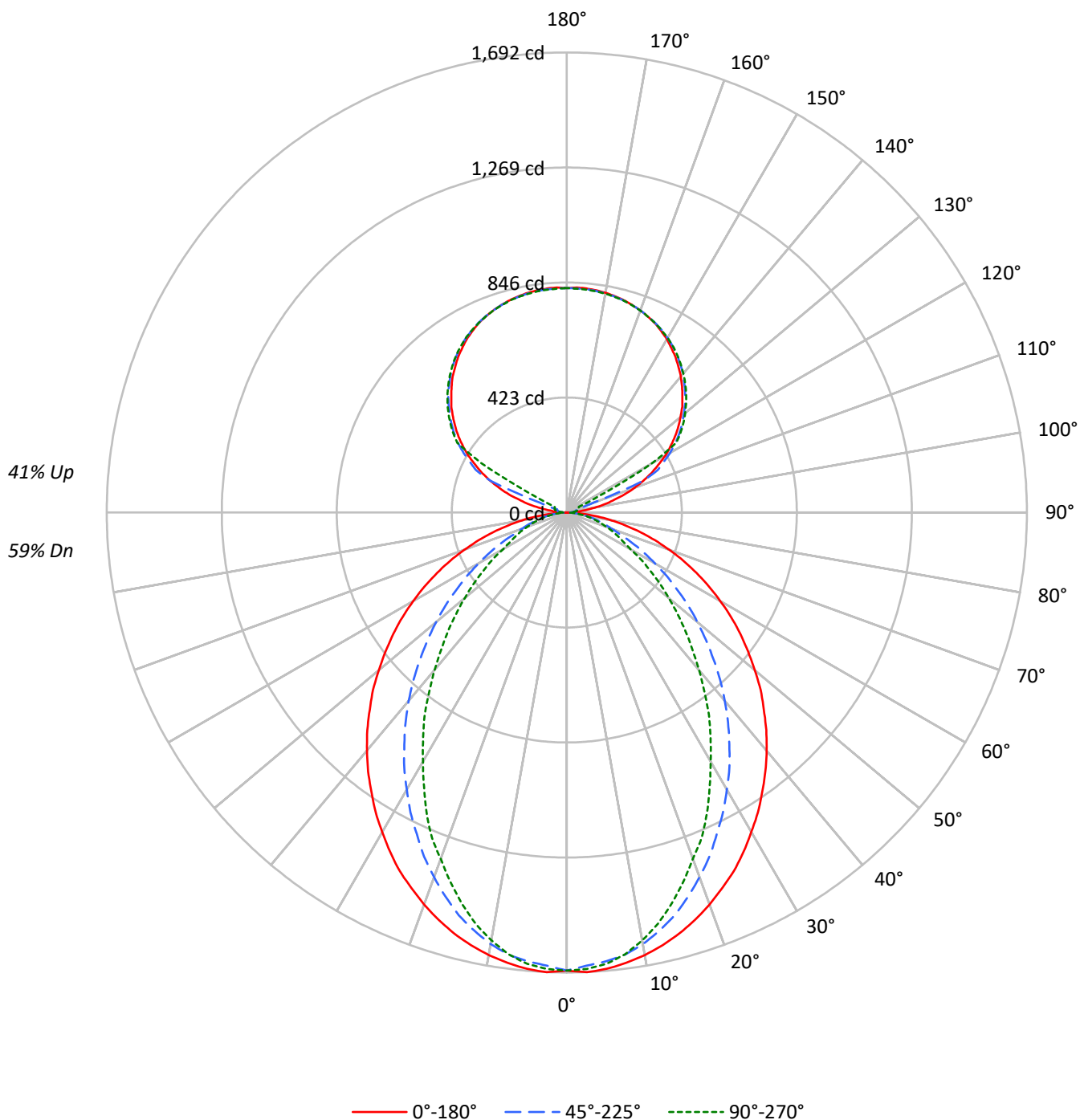
Lumens per Lamp: N/A
Luminaire Lumens: 5886.4 lumens
Efficiency: N/A
Efficacy: 82.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.07' x L: 3.07' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 71.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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
RCR																	
0	109	109	109	109	102	102	102	102	88	88	88		76	76	76		64
1	100	96	92	89	94	90	87	84	78	76	74		68	66	64		58
2	92	85	79	74	86	79	74	70	69	65	62		60	57	55		51
3	84	75	68	62	78	70	64	59	62	57	53		54	50	47		46
4	77	67	59	53	72	63	56	51	55	50	46		48	44	41		42
5	71	60	52	46	66	56	49	44	50	44	40		44	39	36		38
6	66	54	46	40	61	51	44	38	45	39	35		40	35	32		35
7	61	49	41	36	57	46	39	34	41	35	31		36	32	28		32
8	57	45	37	32	53	42	35	30	38	32	28		33	29	25		29
9	53	41	34	29	50	39	32	27	35	29	25		31	26	23		27
10	50	38	31	26	46	36	29	25	32	27	23		29	24	21		25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1920	1920	1920
5°	1922	1888	1901
10°	1902	1850	1839
15°	1874	1788	1742
20°	1838	1702	1624
25°	1802	1607	1511
30°	1753	1509	1367
35°	1705	1404	1240
40°	1656	1295	1095
45°	1599	1175	964
50°	1541	1053	835
55°	1479	924	712
60°	1408	788	586
65°	1326	651	527
70°	1226	523	476
75°	1101	458	431
80°	921	380	372
85°	624	248	275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1599 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	2.7
10°-20°	433.5	7.4
20°-30°	608.6	10.3
30°-40°	663.4	11.3
40°-50°	609.7	10.4
50°-60°	478.8	8.1
60°-70°	311.7	5.3
70°-80°	160.4	2.7
80°-90°	42.4	0.7
90°-100°	27.2	0.5
100°-110°	101.5	1.7
110°-120°	269.1	4.6
120°-130°	446.3	7.6
130°-140°	474.1	8.1
140°-150°	440.6	7.5
150°-160°	354.3	6.0
160°-170°	228.3	3.9
170°-180°	78.6	1.3
0°-30°	1200.0	20.4
0°-40°	1863.4	31.7
0°-60°	2951.9	50.1
0°-90°	3466.4	58.9
90°-120°	397.8	6.8
90°-150°	1758.9	29.9
90°-180°	2420.0	41.1
0°-180°	5886.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1685	1685	1685	1685	1685	
5°	1685	1677	1657	1671	1667	160
15°	1602	1586	1534	1505	1490	452
25°	1455	1406	1305	1243	1220	669
35°	1253	1176	1042	945	912	784
45°	1025	922	762	654	617	791
55°	779	660	496	404	375	696
65°	526	402	265	214	209	521
75°	280	174	122	111	110	297
85°	66	34	29	29	29	75
90°	1	7	12	15	16	6
95°	39	19	23	26	26	46
105°	182	200	36	43	45	194
115°	343	354	368	92	49	338
125°	486	493	505	509	511	433
135°	601	610	616	622	621	464
145°	697	696	707	711	708	436
155°	768	762	769	773	768	354
165°	809	805	807	811	807	228
175°	827	823	824	828	822	79
180°	826	826	826	826	826	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1684.8	1684.8	1684.8	1684.8	1684.8
2.5°	1692.4	1684.8	1668.0	1683.3	1680.2
5°	1684.8	1677.2	1657.3	1671.0	1666.6
7.5°	1671.0	1662.0	1640.6	1646.7	1639.0
10°	1652.8	1642.1	1611.7	1607.0	1597.9
12.5°	1629.9	1616.2	1575.0	1565.9	1549.1
15°	1602.5	1585.7	1533.9	1505.0	1489.7
17.5°	1570.4	1546.1	1482.0	1448.5	1424.0
20°	1533.9	1503.3	1427.1	1389.1	1355.4
22.5°	1494.3	1459.1	1370.7	1318.9	1296.1
25°	1454.6	1405.7	1305.1	1242.7	1219.7
27.5°	1407.4	1355.4	1244.1	1172.5	1137.4
30°	1357.1	1299.0	1177.0	1099.3	1058.1
32.5°	1308.2	1238.0	1113.1	1021.6	983.4
35°	1253.4	1175.6	1041.5	945.3	911.7
37.5°	1200.0	1116.1	974.4	869.0	831.0
40°	1143.5	1052.1	904.1	795.9	756.3
42.5°	1085.7	988.1	834.1	721.1	683.1
45°	1024.7	922.4	762.4	654.0	617.4
47.5°	966.7	858.5	693.8	585.5	552.0
50°	902.7	794.4	626.7	521.4	489.5
52.5°	840.1	725.7	562.6	462.0	433.1
55°	779.1	660.1	495.5	404.1	375.1
57.5°	716.6	594.7	436.1	350.7	326.3
60°	652.6	530.6	373.5	295.9	271.4
62.5°	590.1	468.1	320.2	247.0	234.9
65°	526.0	402.5	265.3	213.5	208.9
67.5°	465.0	341.5	213.5	187.5	183.0
70°	401.0	282.1	176.8	161.6	155.5
72.5°	340.1	227.1	147.9	135.7	132.6
75°	280.5	173.7	122.0	111.3	109.8
77.5°	221.1	123.4	96.1	89.9	86.8
80°	166.2	88.5	73.1	67.1	67.1
82.5°	115.9	59.5	50.3	47.2	47.2
85°	65.5	33.5	28.9	28.9	28.9
87.5°	24.5	12.1	12.1	10.7	10.7
90°	0.6	7.2	11.9	15.0	16.1
92.5°	15.0	12.6	14.3	15.6	16.1
95°	38.8	19.1	23.2	26.3	25.7
97.5°	69.9	21.0	30.4	32.3	32.9
100°	105.7	23.9	34.1	38.8	40.0
102.5°	145.1	144.0	35.2	41.7	43.6
105°	181.6	199.5	36.4	43.0	45.4
107.5°	224.0	238.9	37.7	44.2	46.6
110°	264.6	277.1	104.5	44.8	47.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	302.9	313.6	303.5	46.0	47.8
115°	343.4	353.6	368.5	92.0	49.0
117.5°	378.7	390.6	400.8	315.4	158.9
120°	418.1	427.1	437.8	445.0	364.4
122.5°	451.5	461.1	473.1	476.6	477.3
125°	485.6	493.3	504.8	508.9	510.7
127.5°	516.7	525.0	534.0	540.0	540.5
130°	545.9	555.5	562.1	568.6	568.1
132.5°	575.8	583.6	590.1	595.5	594.9
135°	600.9	610.5	615.8	621.8	620.6
137.5°	627.1	634.3	640.3	646.3	644.5
140°	652.8	657.6	664.1	669.5	666.6
142.5°	674.4	678.6	686.3	691.0	688.1
145°	697.1	696.4	706.6	710.8	707.8
147.5°	716.7	714.9	725.1	728.1	725.7
150°	735.9	731.7	741.3	744.8	741.8
152.5°	751.9	747.2	756.2	759.8	755.6
155°	767.5	762.2	769.3	772.9	768.2
157.5°	780.1	775.3	780.7	784.9	780.1
160°	790.8	787.3	790.8	794.4	790.2
162.5°	800.4	796.8	799.8	804.0	798.6
165°	808.7	805.2	807.0	811.1	807.0
167.5°	815.3	811.7	813.5	817.7	812.4
170°	820.7	817.1	818.3	822.5	817.1
172.5°	824.3	820.7	821.9	826.1	820.7
175°	827.2	823.0	824.3	828.4	822.5
177.5°	828.4	824.3	824.9	829.1	823.7
180°	825.5	825.5	825.5	825.5	825.5

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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	10.17	11.08	11.06	11.98	13.12	6.13	7.04	7.02	7.94	9.08
	3H	11.85	12.66	12.75	13.57	14.74	7.32	8.13	8.22	9.04	10.21
	4H	12.46	13.23	13.37	14.14	15.32	7.77	8.54	8.68	9.45	10.63
	6H	12.88	13.59	13.81	14.51	15.70	8.09	8.80	9.01	9.72	10.91
	8H	13.01	13.68	13.94	14.62	15.81	8.18	8.85	9.11	9.79	10.98
	12H	13.07	13.71	14.01	14.64	15.85	8.22	8.86	9.16	9.79	11.00
4H	2H	10.20	10.97	11.12	11.88	13.06	6.74	7.50	7.65	8.42	9.59
	3H	12.03	12.67	12.96	13.61	14.80	8.09	8.72	9.01	9.67	10.86
	4H	12.72	13.30	13.66	14.24	15.46	8.63	9.21	9.57	10.15	11.37
	6H	13.24	13.73	14.19	14.70	15.92	9.05	9.55	10.00	10.51	11.73
	8H	13.41	13.88	14.36	14.83	16.06	9.17	9.64	10.13	10.60	11.83
	12H	13.51	13.93	14.48	14.90	16.14	9.24	9.66	10.21	10.63	11.87
8H	4H	12.69	13.16	13.65	14.12	15.35	8.91	9.38	9.87	10.34	11.57
	6H	13.26	13.64	14.23	14.64	15.87	9.43	9.81	10.40	10.81	12.04
	8H	13.47	13.81	14.46	14.80	16.05	9.61	9.95	10.60	10.94	12.19
	12H	13.61	13.91	14.60	14.89	16.19	9.73	10.03	10.72	11.01	12.31
12H	4H	12.65	13.07	13.62	14.04	15.28	8.92	9.34	9.89	10.32	11.55
	6H	13.23	13.57	14.22	14.56	15.81	9.47	9.81	10.46	10.80	12.05
	8H	13.45	13.75	14.44	14.73	16.03	9.68	9.98	10.67	10.96	12.26

END OF REPORT