

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: P918819

Luminaire Tested: DFN2DIP-HX2F0-030D050US935-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918819
REPORT IS A COMBINATION OF REPORTS P900703 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D050US935-FLLONL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

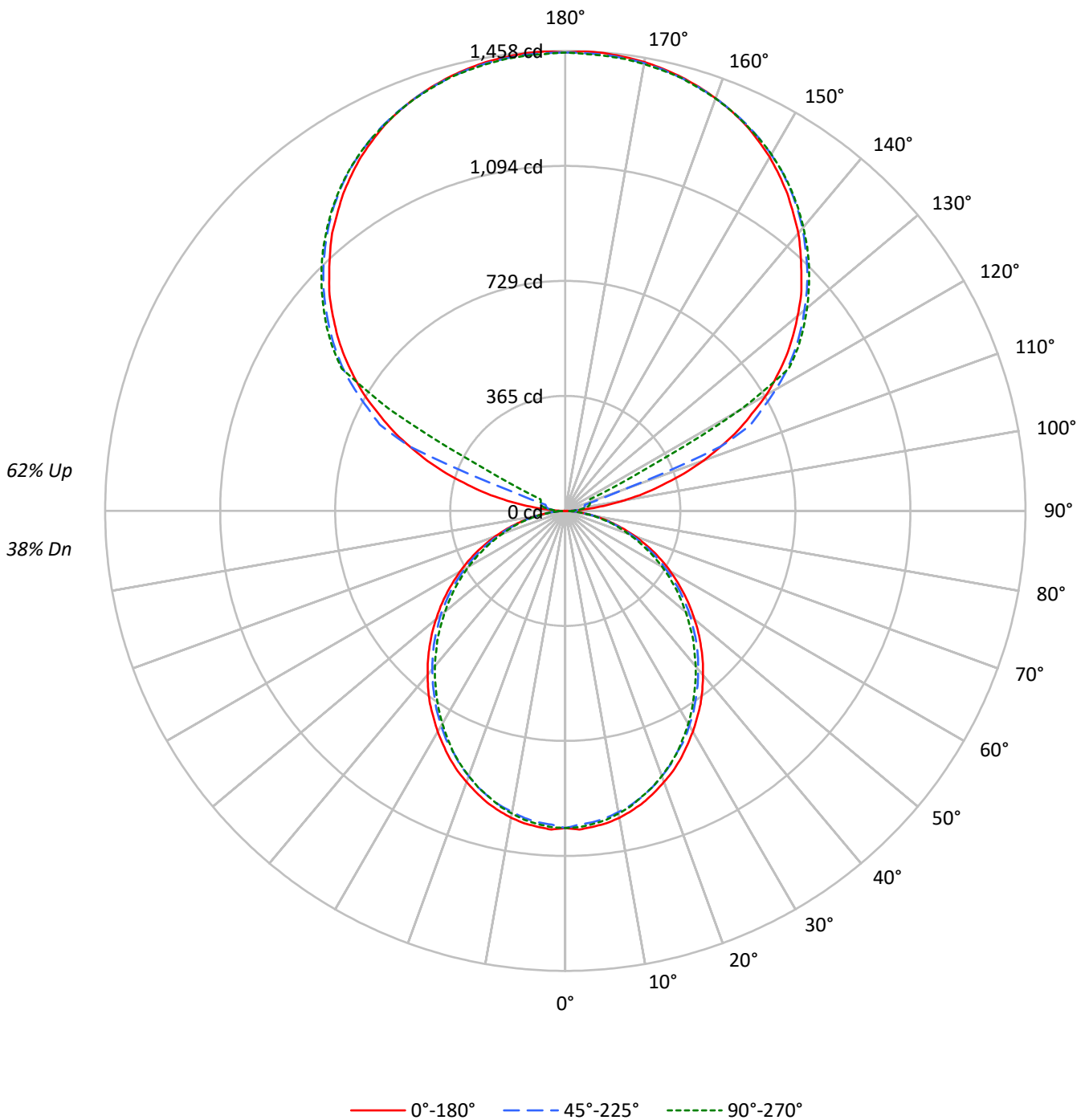
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6819.1 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 63.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	38				38
1	95	91	87	83	86	82	79	76	67	65	63	53	51	50	39	39	38	32				32
2	86	79	73	68	78	72	67	63	59	55	52	46	44	42	35	33	32	26				26
3	79	70	62	57	71	63	57	52	52	47	44	41	38	35	31	29	27	22				22
4	72	62	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19				19
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	22	20	17				17
6	61	49	41	35	55	45	38	33	37	32	28	29	26	23	22	20	18	15				15
7	56	44	36	31	51	40	34	29	33	28	24	27	23	20	20	18	16	13				13
8	52	40	32	27	47	37	30	25	30	25	22	24	21	18	19	16	14	12				12
9	48	36	29	24	44	33	27	23	28	23	19	22	19	16	17	15	13	11				11
10	45	33	26	22	41	31	24	20	26	21	17	21	17	14	16	13	12	10				10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2368	2368	2368
5°	2368	2329	2346
10°	2345	2292	2310
15°	2307	2249	2256
20°	2256	2191	2201
25°	2206	2123	2138
30°	2144	2059	2059
35°	2085	1984	1976
40°	2013	1909	1897
45°	1941	1833	1815
50°	1862	1753	1721
55°	1779	1661	1634
60°	1685	1552	1534
65°	1582	1439	1416
70°	1451	1301	1287
75°	1271	1135	1164
80°	1052	924	939
85°	715	580	580

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1941 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	1.4
10°-20°	266.2	3.9
20°-30°	391.1	5.7
30°-40°	454.3	6.7
40°-50°	453.7	6.7
50°-60°	395.6	5.8
60°-70°	292.5	4.3
70°-80°	165.5	2.4
80°-90°	46.2	0.7
90°-100°	47.9	0.7
100°-110°	178.6	2.6
110°-120°	473.7	6.9
120°-130°	785.6	11.5
130°-140°	834.5	12.2
140°-150°	775.6	11.4
150°-160°	623.5	9.1
160°-170°	401.8	5.9
170°-180°	138.3	2.0
0°-30°	751.9	11.0
0°-40°	1206.2	17.7
0°-60°	2055.6	30.1
0°-90°	2559.7	37.5
90°-120°	700.2	10.3
90°-150°	3095.8	45.4
90°-180°	4259.0	62.5
0°-180°	6819.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1005	1005	1005	1005	1005	
5°	1005	1001	991	998	996	95
15°	957	951	938	942	938	269
25°	866	858	842	844	842	398
35°	747	737	722	716	711	467
45°	608	601	587	576	572	469
55°	460	454	443	431	426	411
65°	310	304	295	286	281	307
75°	162	160	156	150	152	173
85°	40	39	38	35	34	44
90°	1	13	21	26	28	6
95°	68	34	41	46	45	81
105°	320	351	64	76	80	342
115°	604	622	649	162	86	595
125°	855	868	888	896	899	762
135°	1058	1074	1084	1094	1092	817
145°	1227	1226	1244	1251	1246	767
155°	1351	1342	1354	1360	1352	622
165°	1423	1417	1420	1428	1420	402
175°	1456	1449	1451	1458	1448	139
180°	1453	1453	1453	1453	1453	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1005.0	1005.0	1005.0	1005.0	1005.0
2.5°	1010.9	1006.1	995.4	1005.0	1003.2
5°	1005.0	1001.3	990.6	998.3	996.4
7.5°	998.3	992.6	981.9	989.7	987.7
10°	987.7	980.9	969.4	977.1	974.2
12.5°	973.2	967.4	955.9	960.6	958.7
15°	956.7	951.1	938.4	942.3	937.5
17.5°	936.4	930.7	918.1	922.9	918.1
20°	914.2	908.4	894.9	897.8	894.0
22.5°	892.1	883.4	870.7	870.7	868.7
25°	865.9	858.2	841.8	843.7	841.8
27.5°	836.9	830.1	817.6	814.8	809.9
30°	808.0	800.2	785.7	782.8	778.9
32.5°	777.1	771.3	755.8	749.9	746.1
35°	747.1	737.4	721.9	716.1	711.3
37.5°	713.3	704.6	689.1	682.3	677.4
40°	678.5	670.7	655.2	646.6	642.7
42.5°	644.6	636.9	621.5	611.7	606.0
45°	608.0	601.1	586.6	576.0	572.1
47.5°	572.1	565.4	549.9	539.2	533.5
50°	534.4	529.6	516.1	502.6	497.7
52.5°	497.7	490.9	478.5	467.8	461.0
55°	460.1	454.3	442.6	431.1	426.3
57.5°	422.3	417.5	404.9	393.3	389.4
60°	384.6	380.8	367.3	356.6	353.8
62.5°	347.9	341.1	331.5	321.8	318.0
65°	310.3	304.4	294.8	286.1	281.3
67.5°	271.6	266.7	258.0	251.3	247.5
70°	235.8	232.0	223.3	216.5	212.7
72.5°	199.1	195.2	190.4	183.7	180.8
75°	162.3	160.5	155.6	149.8	151.8
77.5°	129.5	125.6	123.6	120.8	118.0
80°	96.7	95.7	93.7	90.8	88.9
82.5°	65.7	65.7	64.8	60.9	60.9
85°	39.6	38.7	37.7	34.8	33.8
87.5°	17.4	15.5	13.5	10.7	9.6
90°	1.0	12.6	21.0	26.3	28.3
92.5°	26.3	22.1	25.2	27.4	28.3
95°	68.3	33.6	41.0	46.3	45.2
97.5°	123.0	36.9	53.6	56.8	57.8
100°	186.1	42.1	59.9	68.3	70.4
102.5°	255.5	253.4	62.1	73.5	76.8
105°	319.6	351.2	64.1	75.7	79.9
107.5°	394.3	420.4	66.3	77.7	82.1
110°	465.8	487.8	184.0	78.9	83.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	533.0	551.9	534.1	80.9	84.1
115°	604.5	622.3	648.7	162.0	86.3
117.5°	666.5	687.5	705.5	555.0	279.7
120°	735.9	751.7	770.6	783.2	641.3
122.5°	794.7	811.6	832.7	839.0	840.1
125°	854.6	868.4	888.4	895.7	898.9
127.5°	909.3	924.0	940.0	950.4	951.4
130°	960.9	977.7	989.2	1000.8	999.9
132.5°	1013.5	1027.2	1038.6	1048.2	1047.1
135°	1057.6	1074.5	1083.8	1094.5	1092.3
137.5°	1103.8	1116.5	1127.0	1137.6	1134.5
140°	1149.0	1157.5	1169.0	1178.4	1173.3
142.5°	1187.0	1194.4	1208.0	1216.3	1211.1
145°	1226.9	1225.8	1243.6	1251.0	1245.8
147.5°	1261.5	1258.3	1276.3	1281.5	1277.4
150°	1295.2	1287.9	1304.7	1311.0	1305.7
152.5°	1323.5	1315.2	1330.9	1337.3	1329.9
155°	1350.9	1341.5	1354.1	1360.4	1352.0
157.5°	1372.9	1364.6	1374.1	1381.5	1372.9
160°	1392.0	1385.6	1392.0	1398.2	1390.9
162.5°	1408.7	1402.5	1407.6	1415.0	1405.6
165°	1423.4	1417.2	1420.3	1427.6	1420.3
167.5°	1435.0	1428.7	1431.9	1439.2	1429.8
170°	1444.5	1438.1	1440.3	1447.6	1438.1
172.5°	1450.8	1444.5	1446.6	1454.0	1444.5
175°	1456.0	1448.6	1450.8	1458.1	1447.6
177.5°	1458.1	1450.8	1451.9	1459.2	1449.7
180°	1452.8	1452.8	1452.8	1452.8	1452.8



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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	8.85	9.61	9.91	10.67	12.11	8.43	9.19	9.49	10.25	11.69
	3H	10.48	11.16	11.55	12.23	13.69	10.02	10.70	11.09	11.77	13.23
	4H	11.05	11.69	12.13	12.76	14.23	10.59	11.24	11.67	12.31	13.77
	6H	11.42	12.02	12.51	13.09	14.57	10.96	11.56	12.05	12.63	14.11
	8H	11.52	12.08	12.61	13.17	14.64	11.06	11.62	12.15	12.71	14.18
	12H	11.55	12.09	12.65	13.17	14.67	11.09	11.63	12.19	12.71	14.21
4H	2H	9.29	9.94	10.38	11.01	12.47	8.95	9.60	10.04	10.67	12.14
	3H	11.12	11.66	12.21	12.76	14.23	10.74	11.28	11.83	12.38	13.85
	4H	11.81	12.31	12.91	13.39	14.89	11.42	11.91	12.52	13.00	14.50
	6H	12.30	12.72	13.40	13.83	15.32	11.90	12.33	13.01	13.44	14.93
	8H	12.43	12.83	13.54	13.93	15.44	12.04	12.43	13.14	13.54	15.04
	12H	12.49	12.85	13.61	13.96	15.48	12.08	12.44	13.21	13.56	15.07
8H	4H	11.99	12.39	13.09	13.49	15.00	11.64	12.03	12.74	13.14	14.64
	6H	12.59	12.91	13.71	14.06	15.56	12.24	12.56	13.36	13.71	15.21
	8H	12.79	13.08	13.92	14.20	15.73	12.43	12.72	13.57	13.85	15.37
	12H	12.90	13.15	14.04	14.28	15.84	12.53	12.78	13.67	13.91	15.47
12H	4H	11.97	12.33	13.09	13.44	14.95	11.62	11.98	12.75	13.10	14.61
	6H	12.61	12.90	13.74	14.02	15.55	12.27	12.56	13.40	13.68	15.21
	8H	12.83	13.08	13.97	14.20	15.76	12.48	12.74	13.62	13.86	15.42