

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: P911678

Luminaire Tested: DFN2DIP-SQ2F0-040D030US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911678
REPORT IS A COMBINATION OF REPORTS P899774 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-040D030US850-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

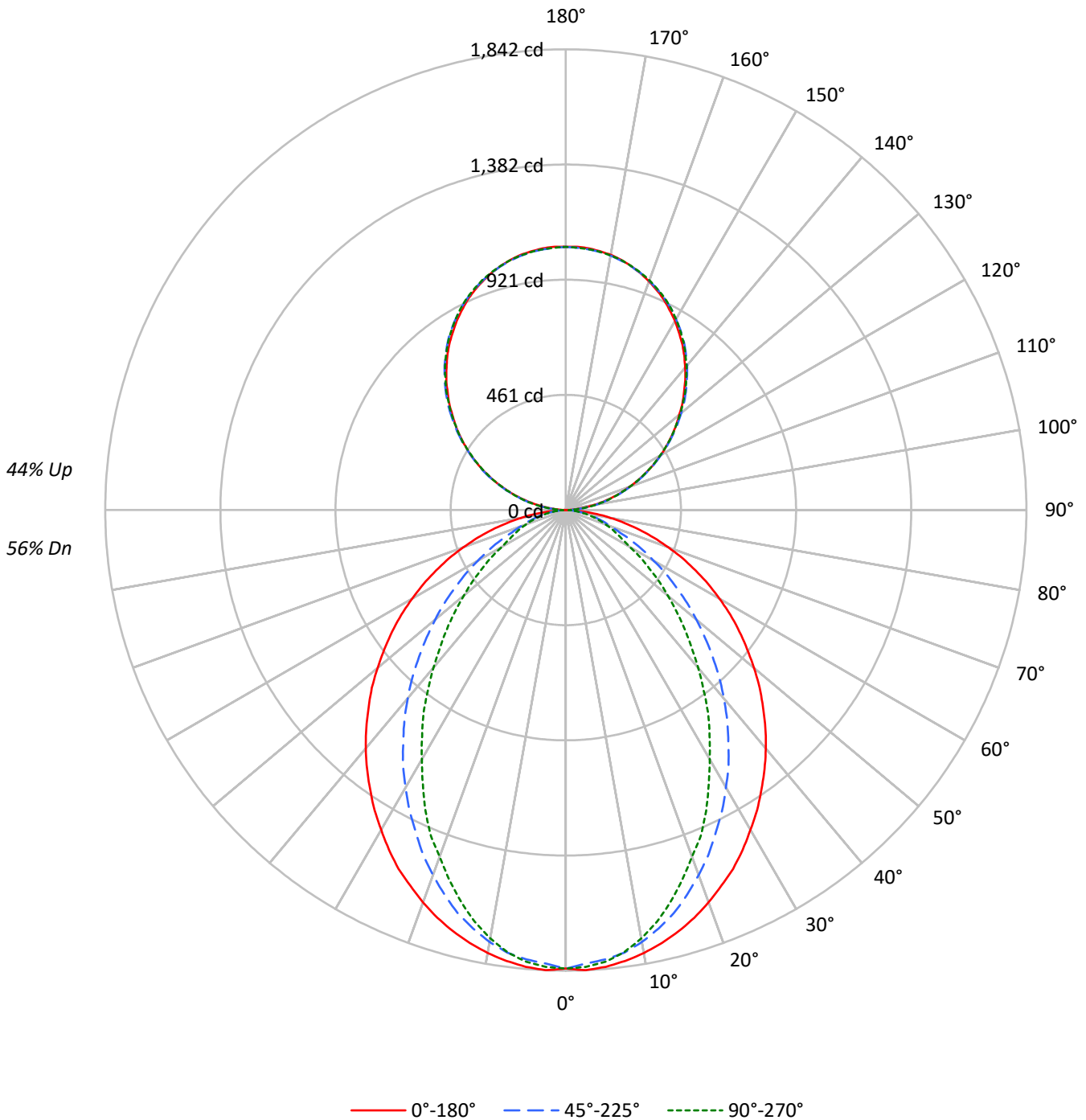
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6714.9 lumens
Efficiency: N/A
Efficacy: 118.8 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: General Diffuse

Input Watts (W): 56.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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		0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56		
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	55	54	53	48		
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	49	47	46	41		
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40	36		
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31		
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	30	27		
6	65	53	46	40	61	50	43	38	44	38	34	38	34	31	33	30	27	24		
7	61	48	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24	22		
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22	20		
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20	18		
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18	16		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4031	4031	4031
5°	4031	3959	3987
10°	3984	3872	3852
15°	3922	3736	3646
20°	3843	3551	3396
25°	3761	3346	3154
30°	3654	3136	2849
35°	3549	2912	2581
40°	3441	2680	2276
45°	3317	2425	1999
50°	3188	2168	1729
55°	3053	1894	1470
60°	2896	1609	1205
65°	2716	1321	1078
70°	2496	1052	967
75°	2219	910	869
80°	1822	739	737
85°	1186	459	524

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3317 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.8	2.6
10°-20°	471.7	7.0
20°-30°	662.3	9.9
30°-40°	721.9	10.8
40°-50°	663.5	9.9
50°-60°	521.1	7.8
60°-70°	339.2	5.1
70°-80°	174.6	2.6
80°-90°	47.6	0.7
90°-100°	65.1	1.0
100°-110°	206.9	3.1
110°-120°	354.0	5.3
120°-130°	465.6	6.9
130°-140°	522.6	7.8
140°-150°	512.5	7.6
150°-160°	429.9	6.4
160°-170°	285.1	4.2
170°-180°	99.7	1.5
0°-30°	1305.8	19.4
0°-40°	2027.7	30.2
0°-60°	3212.2	47.8
0°-90°	3773.6	56.2
90°-120°	626.0	9.3
90°-150°	2126.7	31.7
90°-180°	2941.0	43.8
0°-180°	6714.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1833	1825	1804	1818	1814	174
15°	1744	1726	1669	1638	1621	491
25°	1583	1530	1420	1352	1327	728
35°	1364	1279	1133	1029	992	854
45°	1115	1004	830	712	672	861
55°	848	718	539	440	408	758
65°	572	438	289	232	227	568
75°	305	189	133	121	120	323
85°	71	36	32	32	32	82
90°	1	11	31	29	30	7
95°	46	55	57	57	55	52
105°	191	194	195	197	197	202
115°	355	360	359	358	355	351
125°	517	525	522	519	518	462
135°	668	678	680	679	677	517
145°	812	818	823	824	820	507
155°	928	930	933	938	935	427
165°	1009	1008	1008	1015	1010	285
175°	1050	1048	1046	1052	1047	100
180°	1052	1052	1052	1052	1052	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1833.4	1833.4	1833.4	1833.4	1833.4
2.5°	1841.7	1833.4	1815.1	1831.8	1828.4
5°	1833.4	1825.1	1803.5	1818.4	1813.5
7.5°	1818.4	1808.6	1785.4	1791.8	1783.6
10°	1798.6	1786.9	1753.8	1748.7	1738.9
12.5°	1773.7	1758.8	1713.8	1704.0	1685.7
15°	1743.8	1725.5	1669.2	1637.7	1621.1
17.5°	1709.0	1682.4	1612.6	1576.2	1549.6
20°	1669.2	1635.9	1552.9	1511.6	1475.0
22.5°	1626.0	1587.9	1491.5	1435.2	1410.4
25°	1582.9	1529.8	1420.2	1352.3	1327.3
27.5°	1531.5	1475.0	1353.9	1275.9	1237.6
30°	1476.7	1413.5	1280.8	1196.3	1151.5
32.5°	1423.6	1347.2	1211.2	1111.7	1070.1
35°	1364.0	1279.2	1133.3	1028.7	992.1
37.5°	1305.8	1214.5	1060.2	945.6	904.3
40°	1244.4	1144.9	983.9	866.1	823.0
42.5°	1181.3	1075.2	907.6	784.7	743.4
45°	1115.0	1003.8	829.6	711.8	671.9
47.5°	1052.0	934.2	755.0	637.1	600.6
50°	982.2	864.5	681.9	567.4	532.7
52.5°	914.1	789.7	612.3	502.7	471.2
55°	847.8	718.4	539.2	439.7	408.2
57.5°	779.8	647.1	474.5	381.6	355.1
60°	710.1	577.3	406.4	321.9	295.4
62.5°	642.2	509.5	348.3	268.8	255.6
65°	572.5	437.9	288.7	232.3	227.2
67.5°	506.1	371.6	232.3	204.1	199.1
70°	436.4	307.0	192.4	175.9	169.1
72.5°	370.1	247.2	160.9	147.7	144.4
75°	305.2	189.1	132.7	121.1	119.6
77.5°	240.7	134.3	104.6	97.9	94.5
80°	180.8	96.3	79.5	73.1	73.1
82.5°	126.1	64.8	54.8	51.3	51.3
85°	71.3	36.5	31.5	31.5	31.5
87.5°	26.6	13.2	13.2	11.6	11.6
90°	1.0	11.4	31.1	29.2	30.2
92.5°	19.6	26.6	27.6	28.5	28.5
95°	46.4	55.2	56.8	56.8	55.2
97.5°	77.1	85.3	88.8	88.8	88.8
100°	112.6	119.9	122.4	122.4	121.5
102.5°	150.0	155.5	158.9	159.9	158.9
105°	191.0	193.5	195.4	197.0	197.0
107.5°	231.6	235.3	235.3	236.0	231.6
110°	270.9	276.0	276.0	276.0	273.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	313.4	318.8	317.8	315.3	313.4
115°	355.3	360.3	358.8	357.9	355.3
117.5°	396.8	403.8	399.4	396.8	394.2
120°	438.7	445.7	438.7	438.7	435.8
122.5°	476.8	485.6	481.2	478.6	476.8
125°	516.8	524.7	522.1	519.2	518.3
127.5°	555.7	565.6	562.2	558.3	555.7
130°	592.2	603.6	602.1	600.2	596.6
132.5°	633.1	642.0	642.7	638.2	635.7
135°	668.4	678.2	680.1	679.2	676.6
137.5°	707.7	715.6	717.2	716.6	712.8
140°	742.3	750.2	754.7	754.7	751.1
142.5°	777.9	785.7	788.3	789.3	785.7
145°	811.5	817.8	822.9	823.8	820.3
147.5°	841.6	849.5	853.3	854.9	851.4
150°	872.7	878.1	881.5	884.4	881.5
152.5°	900.3	905.6	910.0	913.6	910.0
155°	927.9	930.3	933.2	937.7	934.9
157.5°	951.6	953.5	955.2	961.5	957.1
160°	972.9	974.8	975.8	981.1	977.4
162.5°	992.6	992.6	993.6	999.5	995.1
165°	1009.4	1008.4	1008.4	1014.7	1010.3
167.5°	1024.6	1021.7	1021.7	1028.0	1023.6
170°	1036.0	1033.5	1032.6	1038.9	1033.5
172.5°	1043.9	1041.5	1040.5	1046.8	1041.5
175°	1050.3	1047.8	1045.9	1052.2	1046.8
177.5°	1053.8	1051.2	1049.3	1054.8	1049.3
180°	1052.2	1052.2	1052.2	1052.2	1052.2



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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	12.43	13.32	13.34	14.24	15.42	8.39	9.28	9.30	10.20	11.38
	3H	14.10	14.89	15.02	15.82	17.03	9.57	10.36	10.49	11.29	12.50
	4H	14.69	15.44	15.63	16.38	17.60	10.01	10.76	10.95	11.69	12.91
	6H	15.10	15.79	16.05	16.73	17.96	10.32	11.00	11.26	11.95	13.18
	8H	15.22	15.88	16.18	16.84	18.06	10.40	11.05	11.36	12.01	13.24
	12H	15.28	15.90	16.24	16.85	18.11	10.44	11.06	11.40	12.01	13.27
4H	2H	12.45	13.20	13.40	14.14	15.36	8.99	9.73	9.93	10.67	11.89
	3H	14.27	14.89	15.22	15.85	17.09	10.32	10.94	11.27	11.91	13.14
	4H	14.95	15.51	15.91	16.47	17.73	10.86	11.42	11.82	12.38	13.64
	6H	15.44	15.93	16.42	16.92	18.17	11.26	11.74	12.23	12.73	13.99
	8H	15.61	16.06	16.59	17.04	18.31	11.38	11.83	12.35	12.81	14.08
	12H	15.70	16.11	16.69	17.10	18.38	11.43	11.84	12.43	12.84	14.11
8H	4H	14.91	15.37	15.89	16.35	17.61	11.13	11.58	12.10	12.56	13.83
	6H	15.46	15.83	16.46	16.86	18.12	11.62	12.00	12.62	13.02	14.29
	8H	15.66	15.99	16.67	17.00	18.29	11.80	12.13	12.81	13.14	14.43
	12H	15.79	16.08	16.80	17.08	18.42	11.91	12.20	12.92	13.20	14.53
12H	4H	14.87	15.27	15.86	16.27	17.55	11.13	11.54	12.13	12.54	13.81
	6H	15.43	15.76	16.44	16.77	18.06	11.67	12.00	12.68	13.01	14.29
	8H	15.64	15.93	16.65	16.94	18.27	11.86	12.16	12.88	13.16	14.49