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: P914633

Luminaire Tested: DFN2DIP-SQ3F0-070D040US927-FLLONL

Issue Date: 11/21/2024

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Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P914633
	REPORT IS A COMBINATION OF REPORTS P901387 AND P898289
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-SQ3F0-070D040US927-FLLONL
Description:	3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	8626.9 lumens
Efficiency:	N/A
Efficacy:	90.0 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 1.16 / 1.29
Luminous Opening:	Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type:	Semi-Direct

Input Watts (W):	95.9
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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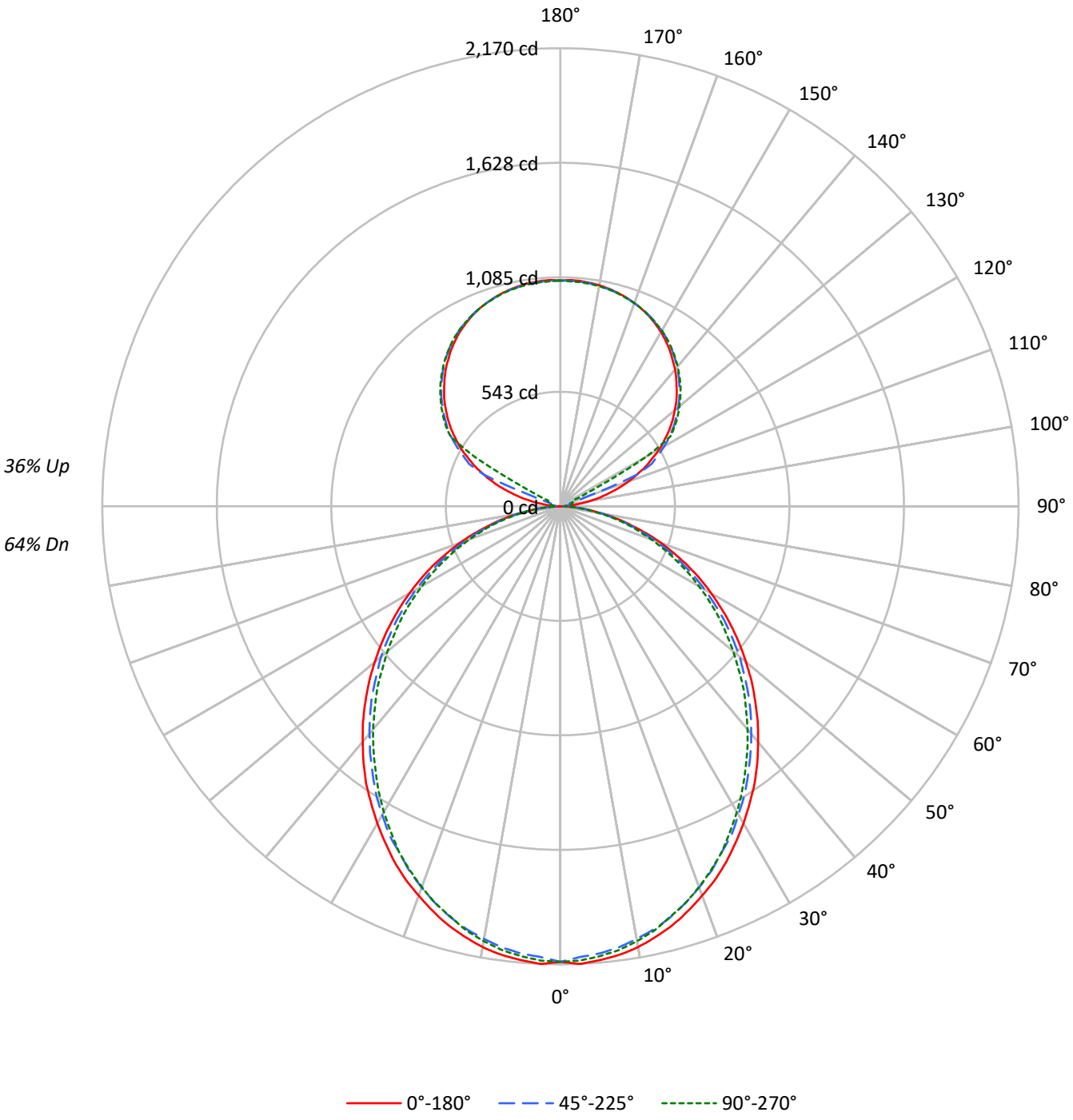
Luminous Intensity Polar Plot



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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	0
RCR																		
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	101	96	92	89	94	91	87	84	80	77	75	70	68	66	61	59	58	54
2	92	84	78	73	86	79	74	69	70	66	62	61	58	55	53	51	49	45
3	84	74	67	61	78	70	63	58	62	57	52	54	50	47	47	44	42	38
4	77	66	58	51	72	62	55	49	55	49	45	48	44	40	42	39	36	33
5	71	59	50	44	66	55	48	42	49	43	39	44	39	35	38	34	31	28
6	65	53	44	38	61	50	42	37	44	38	34	39	34	31	35	31	28	25
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	32	28	25	22
8	56	43	35	30	52	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	25	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2472	2472	2472
5°	2475	2436	2453
10°	2453	2402	2419
15°	2415	2361	2367
20°	2365	2304	2313
25°	2315	2237	2251
30°	2253	2174	2172
35°	2193	2100	2088
40°	2121	2025	2009
45°	2048	1951	1927
50°	1969	1872	1833
55°	1885	1781	1746
60°	1791	1673	1647
65°	1688	1561	1530
70°	1557	1425	1404
75°	1375	1261	1286
80°	1156	1052	1062
85°	814	697	695

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2048 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	2.4
10°-20°	571.4	6.6
20°-30°	839.7	9.7
30°-40°	975.3	11.3
40°-50°	974.1	11.3
50°-60°	849.4	9.8
60°-70°	627.9	7.3
70°-80°	355.2	4.1
80°-90°	95.6	1.1
90°-100°	35.2	0.4
100°-110°	131.5	1.5
110°-120°	348.6	4.0
120°-130°	578.2	6.7
130°-140°	614.2	7.1
140°-150°	570.9	6.6
150°-160°	458.9	5.3
160°-170°	295.7	3.4
170°-180°	101.8	1.2
0°-30°	1614.2	18.7
0°-40°	2589.5	30.0
0°-60°	4412.9	51.2
0°-90°	5491.7	63.7
90°-120°	515.3	6.0
90°-150°	2278.7	26.4
90°-180°	3135.0	36.3
0°-180°	8626.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2158	2150	2127	2143	2139	205
15°	2054	2042	2015	2023	2013	578
25°	1859	1842	1807	1811	1807	855
35°	1604	1583	1550	1537	1527	1002
45°	1305	1291	1259	1237	1228	1007
55°	988	975	950	925	915	883
65°	666	654	633	614	604	659
75°	348	344	334	322	326	372
85°	85	83	81	75	73	95
90°	1	9	15	19	21	8
95°	50	25	30	34	33	60
105°	235	258	47	56	59	251
115°	445	458	477	119	64	438
125°	629	639	654	659	662	561
135°	778	791	798	806	804	601
145°	903	902	915	921	917	565
155°	994	988	997	1001	995	458
165°	1048	1043	1045	1051	1045	296
175°	1072	1066	1068	1073	1066	102
180°	1069	1069	1069	1069	1069	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	*2157.7*	2157.7	2157.7	2157.7	2157.7
2.5°	*2170.3*	*2159.9*	*2137.0*	*2157.7*	*2153.7*
5°	*2157.7*	2149.6	2126.7	2143.2	2139.2
7.5°	*2143.2*	2130.8	2107.9	2124.7	2120.5
10°	*2120.5*	2105.9	2081.1	2097.6	2091.4
12.5°	*2089.2*	2076.9	2052.1	2062.4	2058.2
15°	*2054.0*	2041.7	2014.6	2023.0	2012.6
17.5°	*2010.4*	1998.1	1971.0	1981.4	1971.0
20°	*1962.6*	1950.4	1921.3	1927.5	1919.3
22.5°	*1915.1*	1896.4	1869.3	1869.3	1865.1
25°	*1859.0*	1842.5	1807.3	1811.2	1807.3
27.5°	*1796.7*	1782.2	1755.3	1749.1	1738.8
30°	*1734.6*	1717.8	1686.9	1680.7	1672.3
32.5°	*1668.1*	1655.8	1622.5	1610.0	1601.6
35°	*1603.8*	1583.2	1549.9	1537.4	1527.0
37.5°	*1531.2*	1512.5	1479.2	1464.7	1454.4
40°	*1456.6*	1439.9	1406.6	1388.1	1379.7
42.5°	*1383.9*	1367.2	1334.2	1313.3	1300.9
45°	*1305.1*	1290.6	1259.3	1236.7	1228.3
47.5°	*1228.3*	1213.8	1180.5	1157.6	1145.3
50°	*1147.3*	1136.9	1107.9	1078.9	1068.5
52.5°	*1068.5*	1054.0	1027.1	1004.2	989.7
55°	*987.7*	975.2	950.3	925.4	915.0
57.5°	*906.7*	896.4	869.3	844.4	836.1
60°	*825.7*	817.5	788.5	765.6	759.5
62.5°	*746.9*	732.4	711.7	691.0	682.6
65°	*666.1*	653.5	632.9	614.2	603.8
67.5°	*583.1*	572.6	554.1	539.6	531.2
70°	*506.3*	498.0	479.2	464.7	456.5
72.5°	*427.5*	419.1	408.8	394.3	388.1
75°	*348.5*	344.5	333.9	321.6	325.8
77.5°	*278.1*	269.7	265.5	259.3	253.2
80°	*207.6*	205.4	201.2	195.0	190.8
82.5°	*141.1*	141.1	139.1	130.8	130.8
85°	*85.0*	83.0	81.0	74.6	72.6
87.5°	*37.4*	33.3	29.1	22.9	20.7
90°	*0.7*	9.3	15.4	19.4	20.8
92.5°	*19.4*	16.2	18.5	20.1	20.8
95°	*50.2*	24.7	30.1	34.1	33.3
97.5°	*90.5*	27.1	39.5	41.8	42.5
100°	*137.0*	31.0	44.1	50.2	51.8
102.5°	*188.0*	186.6	45.6	54.1	56.5
105°	*235.2*	258.5	47.2	55.7	58.8
107.5°	*290.2*	309.5	48.8	57.3	60.4
110°	*342.9*	359.0	135.5	58.1	61.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	*392.4*	406.2	393.1	59.6	61.9
115°	*444.9*	458.0	477.4	119.1	63.5
117.5°	*490.6*	506.0	519.3	408.5	205.8
120°	*541.7*	553.3	567.2	576.5	472.1
122.5°	*584.9*	597.4	612.9	617.5	618.3
125°	*629.1*	639.2	653.9	659.3	661.6
127.5°	*669.3*	680.2	691.8	699.6	700.3
130°	*707.3*	719.7	728.1	736.6	735.9
132.5°	*745.9*	756.1	764.5	771.5	770.8
135°	*778.5*	790.9	797.8	805.6	804.1
137.5°	*812.5*	821.7	829.6	837.3	835.0
140°	*845.7*	852.0	860.5	867.4	863.6
142.5°	*873.7*	879.1	889.1	895.2	891.4
145°	*903.1*	902.3	915.4	920.8	916.9
147.5°	*928.5*	926.2	939.4	943.3	940.2
150°	*953.3*	947.9	960.4	965.0	961.1
152.5°	*974.2*	968.0	979.6	984.3	978.9
155°	*994.3*	987.5	996.7	1001.3	995.1
157.5°	*1010.6*	1004.4	1011.5	1016.8	1010.6
160°	*1024.5*	1019.9	1024.5	1029.1	1023.7
162.5°	*1036.9*	1032.3	1036.2	1041.6	1034.6
165°	*1047.7*	1043.1	1045.4	1050.8	1045.4
167.5°	*1056.3*	1051.5	1054.0	1059.4	1052.4
170°	*1063.3*	1058.6	1060.1	1065.6	1058.6
172.5°	*1067.9*	1063.3	1064.8	1070.2	1063.3
175°	*1071.7*	1066.3	1067.9	1073.2	1065.6
177.5°	*1073.2*	1067.9	1068.7	1074.1	1067.1
180°	*1069.4*	1069.4	1069.4	1069.4	1069.4

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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	11.56	12.55	12.39	13.41	14.47	11.11	12.11	11.94	12.96	14.02
	3H	13.22	14.12	14.06	14.98	16.07	12.73	13.63	13.57	14.49	15.58
	4H	13.81	14.66	14.67	15.53	16.63	13.32	14.17	14.18	15.04	16.14
	6H	14.22	15.00	15.09	15.87	16.99	13.72	14.50	14.59	15.37	16.49
	8H	14.32	15.07	15.20	15.96	17.08	13.82	14.57	14.70	15.46	16.57
	12H	14.37	15.08	15.26	15.97	17.11	13.87	14.57	14.75	15.46	16.60
4H	2H	12.03	12.88	12.89	13.75	14.85	11.67	12.52	12.54	13.39	14.49
	3H	13.90	14.61	14.78	15.51	16.63	13.49	14.20	14.37	15.10	16.22
	4H	14.62	15.26	15.51	16.16	17.30	14.19	14.84	15.08	15.74	16.88
	6H	15.14	15.69	16.04	16.62	17.76	14.70	15.26	15.61	16.18	17.33
	8H	15.29	15.81	16.19	16.73	17.88	14.85	15.37	15.76	16.29	17.44
	12H	15.37	15.83	16.29	16.77	17.93	14.92	15.39	15.84	16.32	17.48
8H	4H	14.82	15.34	15.73	16.26	17.42	14.44	14.97	15.35	15.88	17.04
	6H	15.45	15.88	16.39	16.84	18.00	15.07	15.50	16.00	16.46	17.61
	8H	15.67	16.05	16.61	17.00	18.18	15.28	15.66	16.22	16.61	17.78
	12H	15.81	16.14	16.75	17.09	18.31	15.40	15.73	16.34	16.67	17.90
12H	4H	14.81	15.28	15.74	16.22	17.38	14.44	14.91	15.37	15.85	17.01
	6H	15.48	15.86	16.42	16.81	17.99	15.11	15.49	16.05	16.44	17.62
	8H	15.73	16.06	16.67	17.01	18.23	15.35	15.68	16.29	16.62	17.85

END OF REPORT