

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: P914710

Luminaire Tested: DFN2DIP-SQ3F0-090D050US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914710
REPORT IS A COMBINATION OF REPORTS P899890 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-090D050US927-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

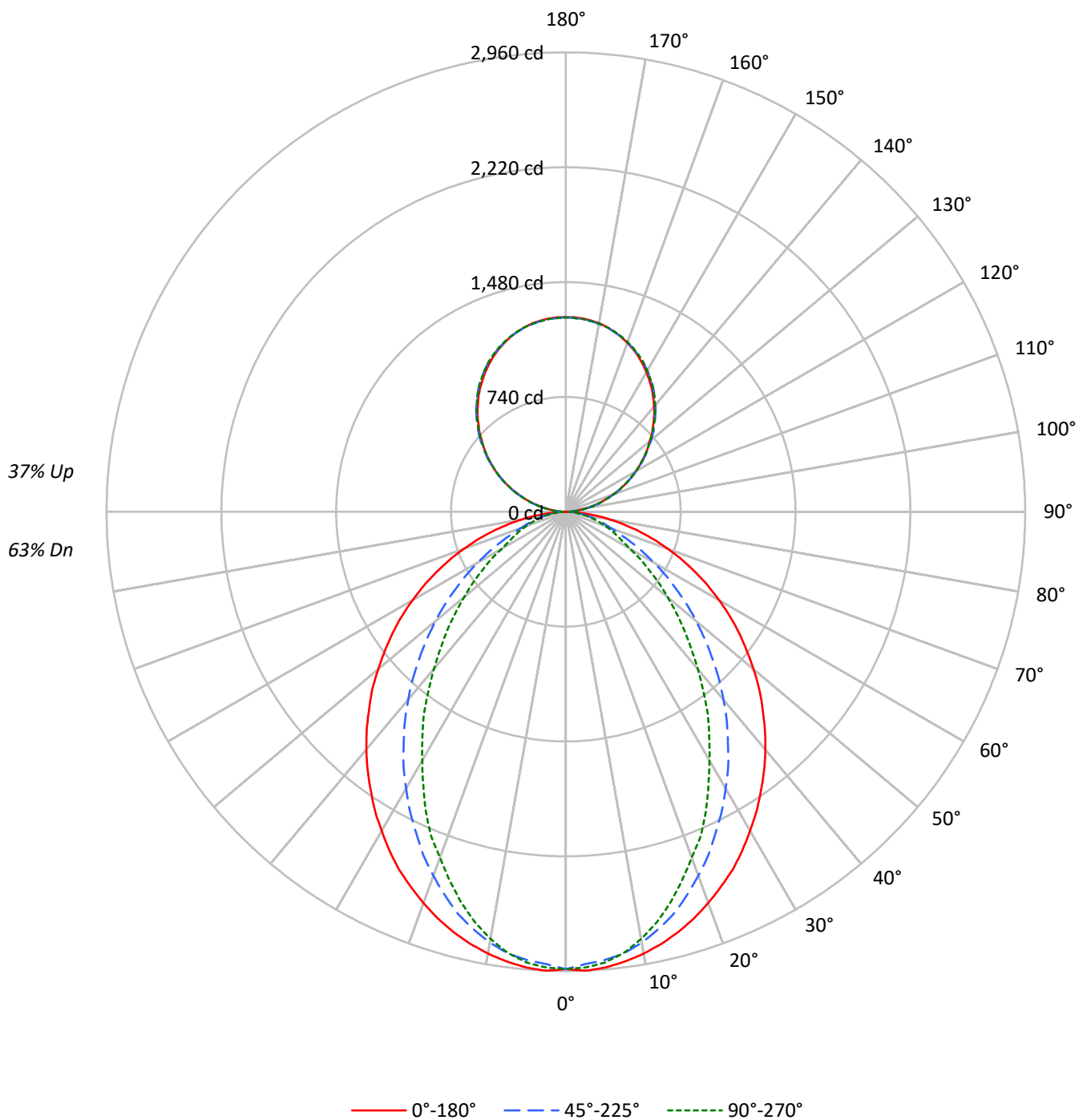
Lumens per Lamp: N/A
Luminaire Lumens: 9565.6 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 124.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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	30	10
RCR																	
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	68	68	68
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	61	60	59
2	93	86	80	75	87	81	75	71	71	67	64	63	60	57	55	53	51
3	85	76	69	63	80	72	65	60	64	59	54	56	52	49	49	46	44
4	78	68	60	54	73	64	57	52	57	51	47	50	46	43	44	41	38
5	72	61	53	47	68	57	50	45	51	45	41	46	41	37	40	37	34
6	67	55	47	41	62	52	45	39	47	41	36	41	37	33	37	33	30
7	62	50	42	36	58	47	40	35	42	37	32	38	33	30	34	30	27
8	58	45	38	32	54	43	36	31	39	33	29	35	30	27	31	27	24
9	54	42	34	29	51	40	33	28	36	30	26	32	28	24	29	25	22
10	50	38	31	26	47	37	30	25	33	28	24	30	25	22	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3376	3376	3376
5°	3380	3321	3343
10°	3344	3253	3233
15°	3296	3143	3064
20°	3233	2993	2857
25°	3168	2825	2657
30°	3082	2653	2403
35°	2998	2468	2181
40°	2912	2277	1926
45°	2812	2065	1695
50°	2709	1852	1469
55°	2601	1624	1252
60°	2476	1386	1030
65°	2331	1145	926
70°	2156	920	836
75°	1936	806	758
80°	1618	669	654
85°	1096	436	485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2812 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.2	2.9
10°-20°	758.1	7.9
20°-30°	1064.4	11.1
30°-40°	1160.3	12.1
40°-50°	1066.4	11.1
50°-60°	837.5	8.8
60°-70°	545.1	5.7
70°-80°	280.6	2.9
80°-90°	75.2	0.8
90°-100°	77.5	0.8
100°-110°	246.3	2.6
110°-120°	421.5	4.4
120°-130°	554.3	5.8
130°-140°	622.2	6.5
140°-150°	610.1	6.4
150°-160°	511.8	5.4
160°-170°	339.4	3.5
170°-180°	118.6	1.2
0°-30°	2098.7	21.9
0°-40°	3258.9	34.1
0°-60°	5162.8	54.0
0°-90°	6063.8	63.4
90°-120°	745.3	7.8
90°-150°	2532.0	26.5
90°-180°	3502.0	36.6
0°-180°	9565.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2947	2947	2947	2947	2947	
5°	2947	2933	2899	2923	2915	279
15°	2803	2773	2683	2632	2606	790
25°	2544	2459	2283	2173	2133	1170
35°	2192	2056	1822	1653	1595	1372
45°	1792	1613	1333	1144	1080	1384
55°	1363	1155	867	707	656	1218
65°	920	704	464	373	365	912
75°	491	304	213	195	192	519
85°	114	58	51	51	51	132
90°	1	14	37	35	36	9
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2946.7	2946.7	2946.7	2946.7	2946.7
2.5°	2960.0	2946.7	2917.2	2944.1	2938.8
5°	2946.7	2933.4	2898.6	2922.6	2914.7
7.5°	2922.6	2906.8	2869.4	2879.9	2866.6
10°	2890.7	2872.0	2818.8	2810.6	2794.7
12.5°	2850.7	2826.7	2754.6	2738.7	2709.3
15°	2802.7	2773.3	2682.7	2632.0	2605.5
17.5°	2746.7	2704.0	2591.9	2533.3	2490.6
20°	2682.7	2629.2	2495.9	2429.5	2370.6
22.5°	2613.4	2552.0	2397.2	2306.7	2266.8
25°	2544.1	2458.6	2282.7	2173.4	2133.3
27.5°	2461.5	2370.6	2176.0	2050.6	1989.2
30°	2373.5	2271.9	2058.6	1922.8	1850.6
32.5°	2288.0	2165.2	1946.8	1786.7	1719.9
35°	2192.1	2056.0	1821.5	1653.4	1594.6
37.5°	2098.7	1951.9	1704.1	1519.9	1453.4
40°	2000.0	1840.2	1581.3	1392.0	1322.7
42.5°	1898.7	1728.1	1458.7	1261.3	1194.8
45°	1792.1	1613.3	1333.4	1143.8	1079.9
47.5°	1690.8	1501.5	1213.5	1023.9	965.4
50°	1578.7	1389.4	1096.1	911.9	856.1
52.5°	1469.3	1269.2	984.0	808.0	757.4
55°	1362.6	1154.6	866.6	706.8	656.1
57.5°	1253.4	1040.1	762.8	613.4	570.7
60°	1141.3	928.0	653.3	517.5	474.8
62.5°	1032.1	818.8	559.9	432.1	410.8
65°	920.0	703.9	464.0	373.4	365.3
67.5°	813.4	597.2	373.4	327.9	320.0
70°	701.4	493.4	309.3	282.7	271.9
72.5°	594.7	397.2	258.6	237.3	232.0
75°	490.6	303.9	213.3	194.6	192.1
77.5°	386.7	215.9	168.0	157.3	151.9
80°	290.6	154.8	127.9	117.4	117.4
82.5°	202.6	104.1	88.0	82.6	82.6
85°	114.5	58.5	50.6	50.6	50.6
87.5°	42.7	21.2	21.2	18.7	18.7
90°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7

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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	12.51	13.46	13.35	14.32	15.39	8.47	9.42	9.31	10.28	11.35
	3H	14.19	15.04	15.04	15.91	17.00	9.66	10.51	10.51	11.38	12.47
	4H	14.80	15.60	15.67	16.48	17.58	10.11	10.91	10.98	11.79	12.89
	6H	15.22	15.96	16.11	16.84	17.96	10.43	11.17	11.31	12.05	13.17
	8H	15.35	16.06	16.24	16.95	18.07	10.52	11.23	11.41	12.12	13.24
	12H	15.42	16.09	16.31	16.98	18.12	10.57	11.24	11.46	12.13	13.27
4H	2H	12.54	13.34	13.41	14.22	15.32	9.07	9.88	9.95	10.75	11.86
	3H	14.37	15.04	15.26	15.95	17.07	10.43	11.10	11.31	12.00	13.12
	4H	15.07	15.67	15.96	16.58	17.72	10.98	11.58	11.87	12.49	13.63
	6H	15.58	16.11	16.49	17.03	18.18	11.39	11.92	12.31	12.84	14.00
	8H	15.76	16.25	16.67	17.17	18.33	11.52	12.01	12.44	12.93	14.10
	12H	15.86	16.30	16.79	17.23	18.40	11.59	12.03	12.52	12.97	14.14
8H	4H	15.04	15.53	15.95	16.45	17.61	11.26	11.75	12.18	12.67	13.83
	6H	15.61	16.01	16.55	16.97	18.14	11.78	12.18	12.72	13.14	14.31
	8H	15.82	16.18	16.77	17.13	18.31	11.96	12.32	12.91	13.27	14.45
	12H	15.96	16.27	16.91	17.22	18.45	12.08	12.40	13.03	13.34	14.57
12H	4H	15.00	15.44	15.93	16.38	17.55	11.27	11.71	12.20	12.65	13.82
	6H	15.58	15.94	16.53	16.89	18.07	11.82	12.18	12.77	13.14	14.32
	8H	15.80	16.12	16.76	17.06	18.30	12.03	12.35	12.99	13.30	14.53