

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: P919250

Luminaire Tested: DFN2DIP-PN2F0-030D050US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919250
REPORT IS A COMBINATION OF REPORTS P899494 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D050US935-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

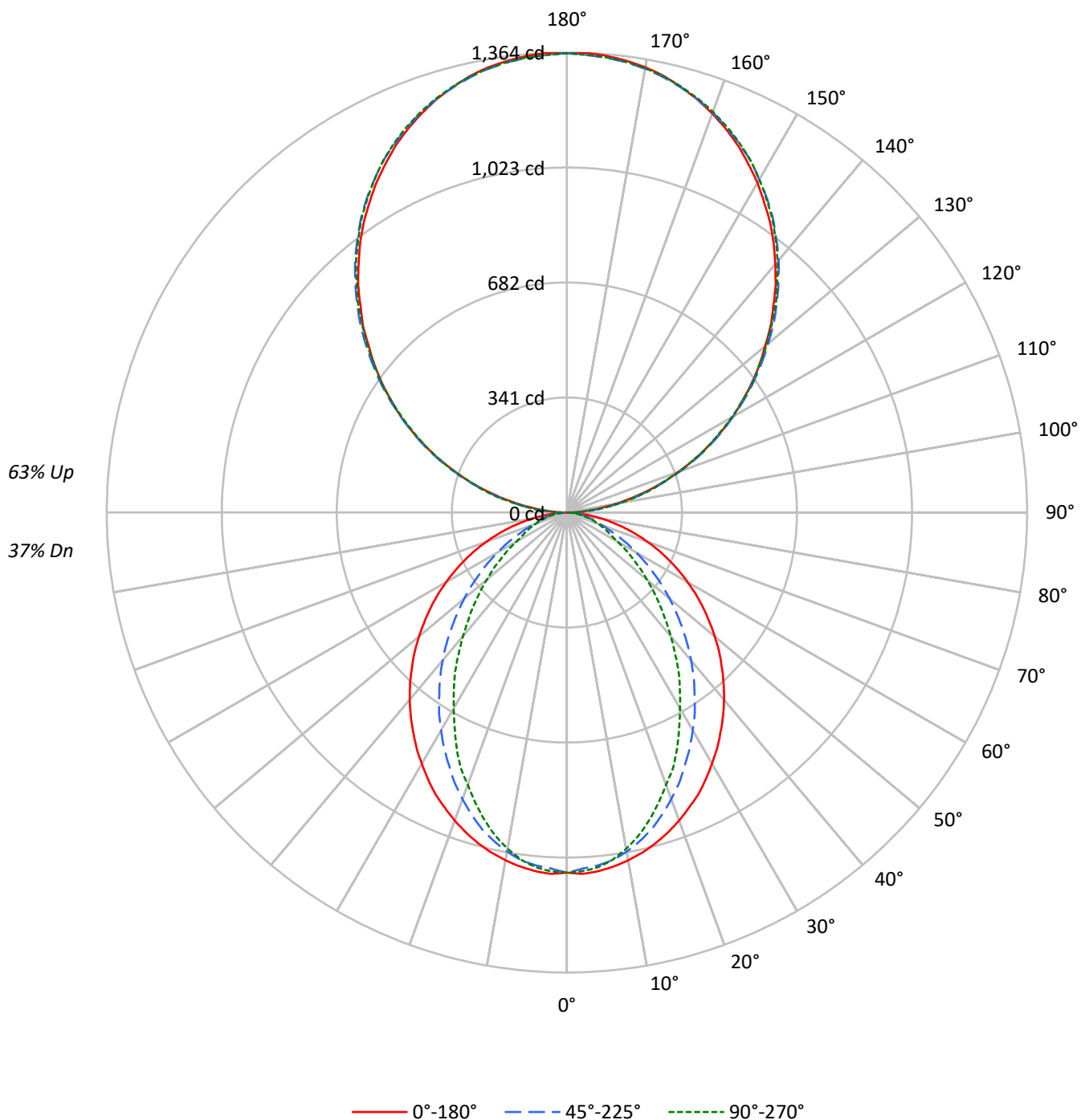
Lumens per Lamp: N/A
Luminaire Lumens: 6005.4 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 69
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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	50	30	10
RCR																				
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	44	44	37
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38	38	38	32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	32	32	27
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28	28	28	23
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24	24	24	20
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21	21	21	18
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19	19	19	16
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17	17	17	14
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15	15	15	13
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14	14	14	12
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13	13	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2312	2312	2312
5°	2312	2271	2286
10°	2285	2221	2209
15°	2250	2143	2091
20°	2205	2037	1947
25°	2159	1920	1808
30°	2098	1799	1633
35°	2037	1671	1480
40°	1976	1538	1305
45°	1905	1391	1146
50°	1832	1244	991
55°	1754	1087	842
60°	1665	924	690
65°	1562	758	617
70°	1436	604	554
75°	1278	523	497
80°	1052	425	420
85°	688	264	298

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1905 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	1.7
10°-20°	274.7	4.6
20°-30°	385.6	6.4
30°-40°	420.3	7.0
40°-50°	386.3	6.4
50°-60°	303.4	5.1
60°-70°	197.5	3.3
70°-80°	101.7	1.7
80°-90°	29.8	0.5
90°-100°	84.2	1.4
100°-110°	267.7	4.5
110°-120°	458.1	7.6
120°-130°	602.5	10.0
130°-140°	676.3	11.3
140°-150°	663.1	11.0
150°-160°	556.3	9.3
160°-170°	368.9	6.1
170°-180°	128.9	2.1
0°-30°	760.3	12.7
0°-40°	1180.7	19.7
0°-60°	1870.4	31.1
0°-90°	2199.4	36.6
90°-120°	810.0	13.5
90°-150°	2751.9	45.8
90°-180°	3806.0	63.4
0°-180°	6005.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1063	1050	1059	1056	101
15°	1015	1005	972	954	944	286
25°	922	891	827	787	773	424
35°	794	745	660	599	578	497
45°	649	584	483	414	391	501
55°	494	418	314	256	238	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	48
90°	1	15	40	38	39	6
95°	60	72	73	73	72	67
105°	247	250	253	255	255	261
115°	460	466	464	463	460	455
125°	669	679	676	672	671	598
135°	865	878	880	879	876	669
145°	1050	1058	1065	1066	1061	656
155°	1201	1204	1208	1213	1210	553
165°	1306	1305	1305	1313	1307	368
175°	1359	1356	1353	1362	1354	129
180°	1362	1362	1362	1362	1362	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1067.6	1067.6	1067.6	1067.6	1067.6
2.5°	1072.4	1067.6	1056.9	1066.6	1064.7
5°	1067.6	1062.7	1050.2	1058.9	1055.9
7.5°	1058.9	1053.1	1039.6	1043.4	1038.5
10°	1047.2	1040.5	1021.2	1018.2	1012.5
12.5°	1032.8	1024.1	998.0	992.2	981.5
15°	1015.4	1004.7	971.9	953.6	943.9
17.5°	995.1	979.6	939.0	917.8	902.3
20°	971.9	952.5	904.2	880.2	858.8
22.5°	946.8	924.5	868.5	835.7	821.2
25°	921.7	890.7	827.0	787.4	772.8
27.5°	891.7	858.8	788.3	743.0	720.7
30°	859.9	823.1	745.8	696.6	670.5
32.5°	828.9	784.5	705.3	647.3	623.1
35°	794.2	744.8	659.9	599.0	577.7
37.5°	760.3	707.1	617.3	550.6	526.6
40°	724.6	666.7	572.9	504.3	479.2
42.5°	687.9	626.1	528.5	456.9	432.8
45°	649.3	584.4	483.1	414.4	391.2
47.5°	612.5	544.0	439.6	370.9	349.7
50°	572.0	503.3	397.1	330.4	310.1
52.5°	532.3	459.9	356.5	292.7	274.4
55°	493.6	418.3	313.9	256.1	237.7
57.5°	454.1	376.8	276.4	222.2	206.7
60°	413.5	336.2	236.7	187.4	172.0
62.5°	373.9	296.6	202.9	156.5	148.9
65°	333.3	255.0	168.1	135.3	132.3
67.5°	294.7	216.4	135.3	118.8	115.9
70°	254.1	178.7	112.0	102.4	98.5
72.5°	215.4	143.9	93.7	86.0	84.0
75°	177.7	110.1	77.3	70.5	69.6
77.5°	140.1	78.2	60.9	57.0	55.0
80°	105.3	56.1	46.3	42.5	42.5
82.5°	73.4	37.7	31.9	30.0	30.0
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
90°	1.2	14.8	40.2	37.8	39.0
92.5°	25.5	34.4	35.7	36.9	36.9
95°	59.9	71.5	73.4	73.4	71.5
97.5°	99.7	110.4	114.9	114.9	114.9
100°	145.7	155.2	158.4	158.4	157.2
102.5°	194.2	201.1	205.6	206.9	205.6
105°	247.1	250.4	252.9	254.9	254.9
107.5°	299.6	304.5	304.5	305.4	299.6
110°	350.5	357.1	357.1	357.1	353.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	405.5	412.5	411.3	408.0	405.5
115°	459.7	466.3	464.3	463.0	459.7
117.5°	513.5	522.5	516.8	513.5	510.2
120°	567.7	576.7	567.7	567.7	564.0
122.5°	616.9	628.4	622.7	619.4	616.9
125°	668.7	678.9	675.6	671.9	670.7
127.5°	719.1	731.8	727.4	722.4	719.1
130°	766.4	781.1	779.0	776.6	772.1
132.5°	819.3	830.8	831.6	825.9	822.6
135°	864.9	877.5	880.0	878.8	875.5
137.5°	915.8	926.0	928.1	927.2	922.3
140°	960.4	970.8	976.5	976.5	972.0
142.5°	1006.4	1016.8	1020.0	1021.2	1016.8
145°	1050.0	1058.2	1064.7	1066.0	1061.4
147.5°	1089.0	1099.2	1104.1	1106.2	1101.6
150°	1129.2	1136.2	1140.6	1144.4	1140.6
152.5°	1164.9	1171.9	1177.6	1182.2	1177.6
155°	1200.6	1203.8	1207.5	1213.3	1209.6
157.5°	1231.4	1233.8	1235.9	1244.1	1238.4
160°	1258.9	1261.4	1262.6	1269.5	1264.6
162.5°	1284.4	1284.4	1285.6	1293.4	1287.6
165°	1306.1	1304.8	1304.8	1313.1	1307.3
167.5°	1325.8	1322.1	1322.1	1330.3	1324.6
170°	1340.6	1337.3	1336.1	1344.3	1337.3
172.5°	1350.8	1347.5	1346.3	1354.5	1347.5
175°	1359.1	1355.7	1353.3	1361.5	1354.5
177.5°	1363.6	1360.3	1357.8	1364.8	1357.8
180°	1361.5	1361.5	1361.5	1361.5	1361.5

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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	8.55	9.28	9.62	10.35	11.80	4.51	5.25	5.58	6.31	7.77
	3H	10.20	10.85	11.27	11.93	13.40	5.68	6.33	6.76	7.41	8.88
	4H	10.79	11.41	11.88	12.48	13.96	6.11	6.73	7.20	7.81	9.29
	6H	11.19	11.76	12.28	12.84	14.33	6.41	6.98	7.51	8.06	9.55
	8H	11.30	11.84	12.40	12.94	14.42	6.49	7.03	7.60	8.13	9.61
	12H	11.35	11.87	12.46	12.96	14.46	6.52	7.04	7.63	8.13	9.64
4H	2H	8.55	9.17	9.65	10.25	11.72	5.09	5.71	6.18	6.78	8.26
	3H	10.34	10.86	11.45	11.97	13.46	6.41	6.92	7.51	8.03	9.52
	4H	11.02	11.49	12.12	12.59	14.10	6.94	7.41	8.04	8.50	10.02
	6H	11.51	11.91	12.62	13.03	14.53	7.33	7.74	8.45	8.86	10.36
	8H	11.67	12.05	12.78	13.16	14.68	7.45	7.83	8.56	8.94	10.46
	12H	11.75	12.09	12.88	13.21	14.74	7.50	7.84	8.63	8.97	10.49
8H	4H	10.97	11.35	12.09	12.46	13.98	7.20	7.58	8.31	8.69	10.20
	6H	11.51	11.83	12.65	12.98	14.49	7.69	8.00	8.82	9.15	10.67
	8H	11.72	11.99	12.86	13.12	14.66	7.87	8.14	9.01	9.27	10.81
	12H	11.84	12.08	12.98	13.21	14.78	7.97	8.21	9.11	9.34	10.91
12H	4H	10.92	11.26	12.05	12.39	13.91	7.19	7.54	8.33	8.66	10.18
	6H	11.49	11.76	12.63	12.89	14.43	7.73	8.01	8.87	9.14	10.67
	8H	11.69	11.93	12.83	13.06	14.63	7.92	8.16	9.07	9.29	10.87