

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: P920764

Luminaire Tested: DFN2DIP-TR3F0-040D050US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920764
REPORT IS A COMBINATION OF REPORTS P900302 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D050US935-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

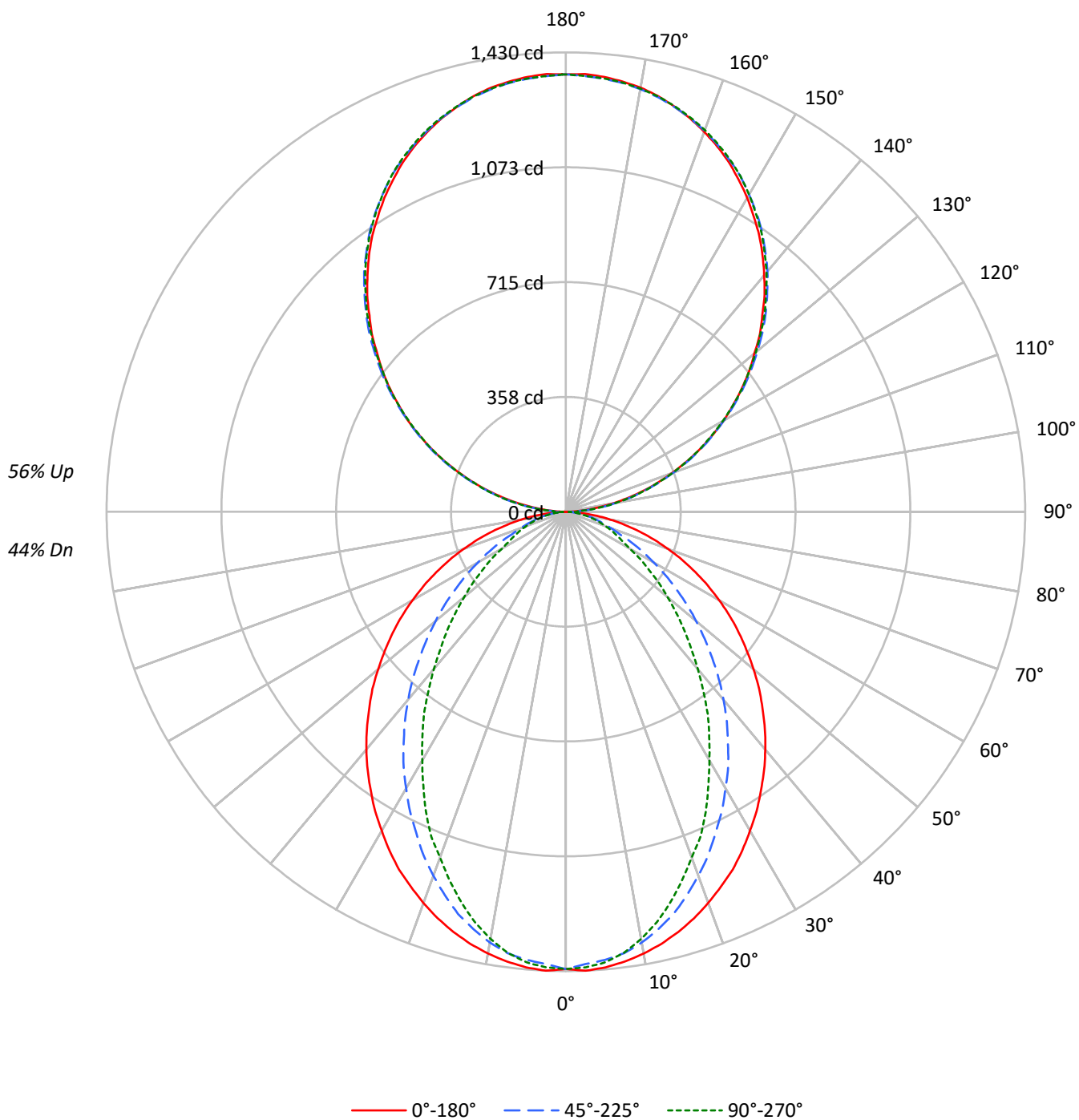
Lumens per Lamp: N/A
Luminaire Lumens: 6737.3 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 72.1
Input Voltage (V):
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
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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50
1	97	93	89	86	88	85	82	79	70	68	66	57	56	54	45	44	43
2	88	81	75	71	81	75	70	65	62	59	55	51	48	46	40	38	37
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	34	32
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	32	30	28
5	68	57	49	43	62	53	46	41	44	39	35	37	33	30	29	27	25
6	63	51	43	38	57	47	41	35	40	35	31	33	29	26	27	24	22
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	25	22	20
8	54	42	35	30	50	39	32	28	33	28	24	28	24	21	23	20	18
9	50	39	31	26	46	36	29	25	31	25	22	26	22	19	21	18	16
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1774	1774	1774
5°	1776	1744	1756
10°	1757	1708	1697
15°	1732	1650	1608
20°	1699	1571	1499
25°	1665	1483	1393
30°	1620	1392	1260
35°	1576	1295	1142
40°	1531	1194	1008
45°	1479	1083	887
50°	1425	970	768
55°	1368	851	654
60°	1303	726	538
65°	1227	599	482
70°	1136	481	435
75°	1020	421	393
80°	854	348	337
85°	582	226	247

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1479 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.4	2.0
10°-20°	366.2	5.4
20°-30°	514.2	7.6
30°-40°	560.5	8.3
40°-50°	515.1	7.6
50°-60°	404.5	6.0
60°-70°	263.3	3.9
70°-80°	135.6	2.0
80°-90°	38.5	0.6
90°-100°	84.2	1.3
100°-110°	267.7	4.0
110°-120°	458.1	6.8
120°-130°	602.5	8.9
130°-140°	676.3	10.0
140°-150°	663.1	9.8
150°-160°	556.3	8.3
160°-170°	368.9	5.5
170°-180°	128.9	1.9
0°-30°	1013.8	15.0
0°-40°	1574.2	23.4
0°-60°	2493.9	37.0
0°-90°	2931.2	43.5
90°-120°	810.0	12.0
90°-150°	2751.9	40.8
90°-180°	3806.0	56.5
0°-180°	6737.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1423	1423	1423	1423	1423	
5°	1423	1417	1400	1412	1408	135
15°	1354	1340	1296	1271	1259	382
25°	1229	1188	1103	1050	1030	565
35°	1059	993	880	799	770	663
45°	866	779	644	553	522	668
55°	658	558	419	341	317	588
65°	444	340	224	180	176	441
75°	237	147	103	94	93	251
85°	55	28	24	24	24	64
90°	1	15	40	38	39	7
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°	1423.4	1423.4	1423.4	1423.4	1423.4
2.5°	1429.9	1423.4	1409.2	1422.2	1419.5
5°	1423.4	1416.9	1400.2	1411.8	1408.0
7.5°	1411.8	1404.1	1386.1	1391.1	1384.7
10°	1396.4	1387.3	1361.6	1357.6	1350.0
12.5°	1377.1	1365.5	1330.6	1322.9	1308.7
15°	1353.8	1339.6	1295.9	1271.4	1258.6
17.5°	1326.8	1306.1	1252.0	1223.7	1203.1
20°	1295.9	1270.1	1205.7	1173.5	1145.1
22.5°	1262.4	1232.8	1158.0	1114.2	1095.0
25°	1228.9	1187.7	1102.6	1049.9	1030.4
27.5°	1189.0	1145.1	1051.1	990.6	960.9
30°	1146.5	1097.4	994.4	928.8	894.0
32.5°	1105.3	1045.9	940.4	863.1	830.8
35°	1058.9	993.2	879.9	798.7	770.2
37.5°	1013.8	942.9	823.1	734.2	702.1
40°	966.1	888.9	763.9	672.4	638.9
42.5°	917.1	834.7	704.6	609.2	577.1
45°	865.6	779.3	644.1	552.6	521.7
47.5°	816.7	725.3	586.2	494.6	466.3
50°	762.6	671.1	529.4	440.5	413.5
52.5°	709.7	613.1	475.4	390.3	365.8
55°	658.2	557.8	418.6	341.4	316.9
57.5°	605.5	502.4	368.4	296.3	275.7
60°	551.3	448.2	315.6	249.9	229.4
62.5°	498.6	395.5	270.4	208.7	198.5
65°	444.4	340.0	224.1	180.4	176.4
67.5°	393.0	288.5	180.4	158.4	154.5
70°	338.8	238.3	149.4	136.6	131.3
72.5°	287.3	191.9	124.9	114.7	112.1
75°	236.9	146.8	103.1	94.0	92.8
77.5°	186.8	104.3	81.2	76.0	73.4
80°	140.3	74.7	61.7	56.7	56.7
82.5°	97.9	50.3	42.5	39.9	39.9
85°	55.4	28.3	24.5	24.5	24.5
87.5°	20.7	10.2	10.2	9.0	9.0
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	8.45	9.23	9.46	10.25	11.61	4.42	5.20	5.44	6.23	7.59
	3H	10.11	10.81	11.14	11.84	13.22	5.60	6.30	6.63	7.33	8.71
	4H	10.71	11.37	11.75	12.40	13.80	6.05	6.71	7.09	7.74	9.13
	6H	11.12	11.73	12.17	12.77	14.17	6.36	6.97	7.41	8.01	9.41
	8H	11.24	11.82	12.30	12.87	14.27	6.45	7.02	7.50	8.08	9.48
	12H	11.30	11.85	12.36	12.89	14.32	6.49	7.03	7.55	8.08	9.50
4H	2H	8.46	9.12	9.50	10.15	11.54	5.01	5.67	6.05	6.70	8.09
	3H	10.27	10.82	11.33	11.88	13.29	6.35	6.90	7.40	7.96	9.36
	4H	10.95	11.46	12.01	12.51	13.94	6.89	7.39	7.95	8.44	9.87
	6H	11.46	11.89	12.53	12.96	14.39	7.30	7.73	8.37	8.80	10.23
	8H	11.63	12.03	12.70	13.10	14.53	7.42	7.82	8.49	8.89	10.33
	12H	11.71	12.08	12.80	13.16	14.60	7.48	7.85	8.57	8.93	10.37
8H	4H	10.92	11.32	11.99	12.39	13.82	7.16	7.56	8.23	8.63	10.07
	6H	11.47	11.80	12.56	12.91	14.35	7.67	8.00	8.76	9.11	10.54
	8H	11.68	11.97	12.78	13.07	14.52	7.85	8.14	8.95	9.24	10.69
	12H	11.81	12.07	12.91	13.16	14.65	7.97	8.22	9.07	9.31	10.80
12H	4H	10.87	11.23	11.95	12.31	13.75	7.16	7.52	8.25	8.61	10.05
	6H	11.45	11.74	12.54	12.83	14.28	7.71	8.00	8.81	9.10	10.55
	8H	11.66	11.91	12.76	13.00	14.50	7.92	8.17	9.02	9.26	10.75